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FROM THE EDITOR



DAN MOLD

IT'S COMMON TO REGARD THE PICTURES WE TAKE as an end result. A single split-second in time immortalised on a hard drive. But with the power of digital imaging, the shot you've taken can be just the starting point to an entirely new creation. Sometimes this will involve a subtle enhancement that refines the composition and improves the contrast, but other times, images can be utterly transformed – so much so that they take on a whole new meaning. This issue's *Photoshop Genius* section reveals how you can take pictures on an exciting journey and turn them into something fresh. From creating a new look with lighting effects to giving straight portraits a sci-fi twist, you'll find techniques that'll make you think again about how you can reinvent your pictures.

With spring well underway, this month is also the ideal time to visit your local woodland. Great seasonal images are just waiting to be captured, but many are fleeting so you have to do it now! We've lined up five cracking projects that will reward you with fantastic shots for very little effort, so pack your kit and head for the nearest group of trees. With a little luck, you'll bag all five shots in one visit!

Jon Adams Editor
jon.adams@bauermedia.co.uk

Jon



KEVIN CARDEN

DIGITAL PHOTO

On the cover

'Walking through the Water' was created by photographer Kevin Carden, who combined many different shots to build the composite image. Kevin used a Canon EOS 5D MkII with a 35mm lens to shoot all the source pictures and built the final picture by blending them together using Layers in Photoshop.

You can discover some great techniques that will take your own pictures further in *Photoshop Genius* on p65, and to find out more about Kevin's image, turn to p12.

To see more of Kevin's incredibly detailed work, visit christianphotoshops.com

Three ways we'll help you get better pictures this month



1 Inspirational shooting ideas

It's easy to get caught up in subjects and scenes, but composing shots using nothing more than colours and shapes will help train your eye. See how to shoot abstracts on p40.



2 Top Photoshop techniques

From tilt-shift lens effects to retro Polaroid emulsion lifts, *Photoshop Genius* shows you how to take photos in a new creative direction. And there are 25 free lens flare effects, too!



3 The best gear buying advice

On top of our big test of wide-angle zooms, we also have in-depth tests of Nikon's latest D7200 D-SLR, and Fujifilm's most recent premium fixed-lens compact – the X100T.

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A YEAR OF DIGITAL PHOTO AT A DISCOUNT PRICE – SEE P24



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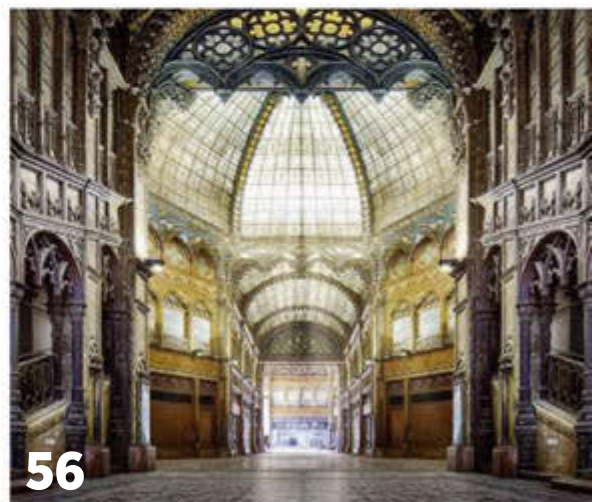
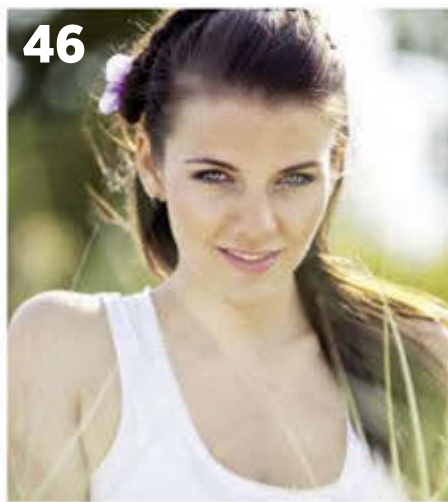
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Use Layers and effects to inject a slice of sci-fi into portraits of friends and family.

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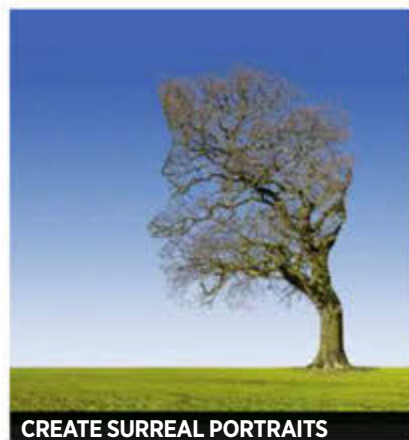
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9 VIDEO TUTORIALS ON YOUR FREE CD



**97
MINUTES
OF EXPERT
ADVICE**

Pop the *PhotoSkills* CD in your PC or Mac and get set for a brilliant learning experience. There are nine in-depth video lessons on the disc, all brought to you by the same photographers who make the magazine. Each video is created exclusively to help you master core imaging skills. Because you get to watch our experts talk you through the whole process, it's a bit like receiving one-to-one tuition, only you're in charge of when it happens! Plus you can watch the videos as many times as you like, and practise them with the actual pictures used in the mag.

On this month's disc, we help you master a variety of fantastic, image-enhancing effects in Photoshop and Elements. Sit back and watch the projects come to life on screen, and you'll be trying out the techniques on your own shots in no time. It's a great method of learning and will ensure you get the best out of your photography.



1 ADD SUNSHINE

Use any of the 25 effects in your free lens flare kit to add warmth and atmosphere to any picture.



2 MINIATURISE CITIES

Make cityscapes look like models by creating a tilt-shift effect using Blur filters and Layer Masks.



3 GET SURREAL TREES

Sculpt lone trees into surreal profile portraits by merging two shots together using Layers.



4 NEW BACKGROUNDS

Make accurate cut outs using the Refine Edge command and place people in entirely new locations.



5 POLAROID LIFTS

Create a classic film effect the digital way by emulating a Polaroid emulsion lift using our free templates.



6 MAKE ANDROIDS

Take on our challenge by turning a portrait into a robot using Layers, vector shapes and Layer Styles.



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Set up your camera to shoot impressionist-style trees full of movement and colour.

Also on your amazing interactive disc this month...



START IMAGES

Use these files to practise the projects with your own software.



READER GALLERY

Inspiring pics from *Digital Photo* readers.



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Planet Photo

Your big fix of inspiration
from the world's best
creative photographers

PERSPECTIVE



Some images are carefully and painstakingly prepared in a controlled environment. However, for photographer **David Tao** it was instinct and fortuitous timing that resulted in this striking beach scene. David was relaxing with his family when he saw various elements begin to line up. Posing his wife and daughter, he reached for his camera. At that instant a gust of strong wind blew his wife's skirt. He was able to freeze the movement thanks to the bright sunlight, which allowed for a fast shutter speed.

He later discovered that just as the shutter was fired, a seagull and a dog had also entered the composition. This resulted in an almost perfect compositional triangle that keeps the eye moving around the image.

Camera Canon EOS 5D Mark III & 35mm f/1.4 lens

Exposure 1/320sec @ f/10, ISO 100 **Software** Photoshop

Visit davidtaophotography.com









CAPPADOCIA DREAM



For travel photographer **Altug Galip**, the countries and cultures he visits provide new perspectives on both life and photography.

One of the 14 locations he travelled to last year was Cappadocia in Turkey. Situated on the stark Anatolian plains, Cappadocia is a geological oddity that makes for beautiful landscape photography. For Altug, the otherworldly setting became the backdrop for this spectacular hot air balloon shot.

Balloon tours are popular in the area and most set off at dawn to make the most of the views as the sun rises over the surreal, lunar landscape. That meant Altug had to plan ahead, wake up early and be in position before the action started in order to get this shot.

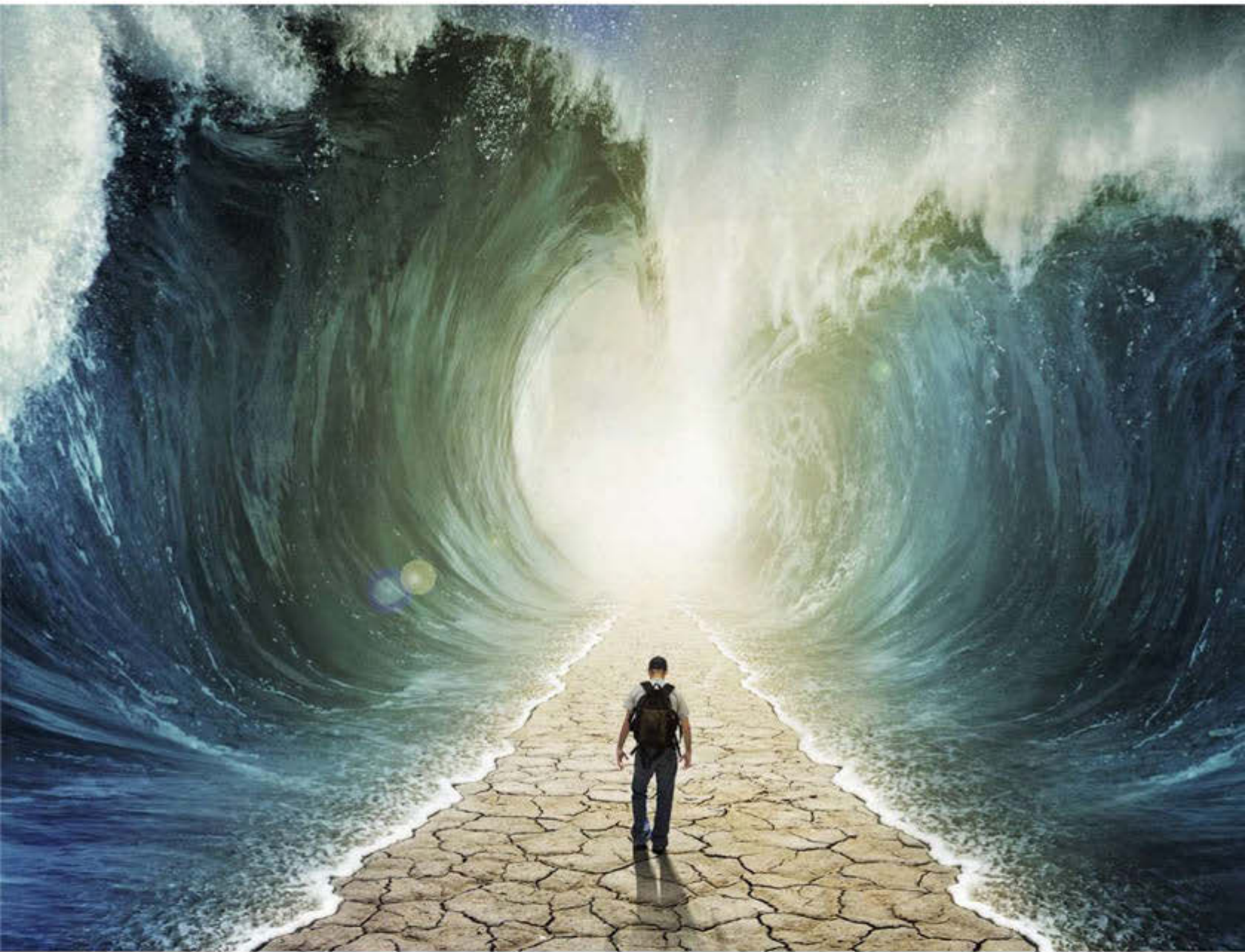
Altug utilised a cave on one of the honeycombed hills to frame the balloons as they took off. The clever framing device really helps to give some structure to the image. The colourful balloons are the first things in the shot that catch the eye, but it's the low-angled sunlight streaming in from the right that provides contrast, accentuates the contours of the landscape and really helps to elevate the image to another level of quality.

Shooting with his Nikon D90 D-SLR and kit lens, Altug proved the old adage: "If you want to take more interesting photos, try standing in front of more interesting things!"

Camera Nikon D90 & 18-105mm f/3.5-5.6 lens

Exposure 1/200sec @ f/10, ISO 200 **Software**

Photoshop **Visit** [facebook.com/kyrenians](https://www.facebook.com/kyrenians)



WALKING THROUGH THE WATER



Photographer and digital artist **Kevin Carden** likes to make impossible scenes come to life with a careful blend of camera skills and Photoshop prowess.

For this shot he decided to bring to life the parable of Moses crossing the Red Sea. According to the Exodus account, Moses held aloft his staff and the Red Sea was parted by God. Recreating the scene as it appears in the Bible would have taken thousands of models and resulted in quite a crowded composition. To keep his modern take visually simple, Kevin decided to include just one figure: himself.

Kevin believes one of the great strengths of Photoshop is that it allows photographers to combine several images and tell a story that would otherwise be impossible in a single capture. For this shot, he combined dozens of images to achieve the effect. For that reason it was important that the elevation, focal length and depth-of-field of each shot were as similar as possible. To achieve this, Kevin shot each of his images on his Canon 5D Mark II and a 35mm lens. He used a fairly small aperture to keep each element sharp throughout.

In his experience creating hyperreal composites, Kevin has found that matching the

point of view of each element in the scene is a vital part of selling the illusion. In this shot, for example, the camera had to be elevated slightly so the viewer could see the Red Sea stretching off into the distance.

Kevin takes photos wherever he goes, from multiple points of view. These may sit on a hard drive for several years before being used, but the more raw materials he has to work with, the higher the chance he'll find an angle that'll work when the time comes.

Camera Canon EOS 5D Mark II & Sigma 35mm f/1.4 lens

Exposure Various @ f/13, ISO 100 **Software** Photoshop

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MOOD OF HONG KONG & 8 HOURS IN HONG KONG



Shooting Victoria Bay from the Avenue of Stars in Kowloon, Hong Kong, French photographer **Julien Grondin** was able to capture a vibrant cityscape. The dense accumulation of neon lights shining out of the shoreline skyscrapers creates a dazzling array of reflections in the water.

Knowing the junk's route meant that Julien was able to set up in advance and wait for it to enter the frame. A high ISO gave him a good exposure despite the lack of light, and a shutter speed of 1/15sec was enough to freeze the movement of the boat.

The slow shutter meant Julien had to use a tripod to keep his camera steady. As the camera position was locked off, he was able to shoot bracketed exposures and combine them in Photoshop to extend the dynamic range. The result is a shot that beautifully juxtaposes the modern and the traditional faces of Hong Kong.

For *8 Hours in Hong Kong*, Julien took advantage of the inclement weather and left some raindrops on his lens. The streetlight behind the droplets created in-camera bokeh which nicely complements the long-exposure traffic trails leading into the scene. The cool light in the sky came from a full moon.

Camera Canon EOS 5D Mark III & 24-70mm f/2.8 & 14mm f/2.8 lens

Exposure 1/15sec @ f/2.8, ISO 1600 & 20sec @ f/11, ISO 50

Software Photoshop Visit beboyphoto.com

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TOUCH



In his images **Luis Mariano González** eschews advanced post-processing techniques in favour of simplicity and naturalism. This shot perfectly encapsulates his approach. By focusing on tiny details, Luis aims to evoke a sense of the relationship between the model and their surroundings. One of Luis' favourite techniques is to portray a second sense, aside from sight, in his shots. In this case, the hand in the image gives it a visceral power that reminds the viewer how it feels to touch the natural world around us.

Shooting with a wide-angle lens, Luis used a shallow depth-of-field to blur the wheat field and draw the viewer's attention to the minute details of the hand and wheat. He also moved the camera close, so the hand would occupy as much of the frame as possible. The result is a shot that manages to be sophisticated yet simple, and deeply poignant at the same time.

Camera Canon EOS 50D & 28mm f/1.8 lens **Exposure** 1/8000sec @ f/1.8, ISO 100

Software Photoshop Visit unaciertamirada.com



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THE WOODEN STRUCTURE IN

photographer Luca Gino's image is an old fishing machine known as a trabucco. Now protected, trabucchi are large platforms anchored to the coast by huge pine logs.

"These structures are a vital part of the culture and history of the Abruzzo region," Luca explained. "Luckily for me, they're also photogenic. I found an interesting rock that had an orangey-yellow hue to it, so I decided to make it my foreground interest."

Luca was careful to arrive at his chosen location before the Golden Hour. "I set up in the late afternoon and waited for the sunset. I stacked a graduated neutral density filter with some ND filters and a polariser to allow a long shutter speed of 15secs to be achieved. The polarising filter is a vital part of the mix, because it lets you see beyond the surface of the water. That's why you can see the colours of the sea bed."

When asked for his tips, Luca told us: "When shooting landscapes, always study your location ahead of the shoot. I also recommend you don't keep changing locations. Pick a couple of settings and commit to them. In general, the light gets better as time goes on, so be prepared to wait for it."

► www.lucagino.it



Set up your gear for a sunset seascape shot

■ Choose a location with some foreground interest and set up before the lighting is at its peak. You'll need to use a tripod to steady your camera.

■ Use a wide-angle lens of 18mm (that's about 12mm on an APS-C camera) or use your kit lens at its widest focal length.

■ To blur the movement of the water, Luca attached a graduated neutral density filter, a 0.6 ND filter providing a two-stop exposure reduction and a 0.9 ND filter, which provides a three-stop exposure reduction. He also used a polarising filter to reveal the ocean bed.

■ Set your camera to Manual mode (M on the mode dial) and dial in a shutter speed of 15secs. Use an aperture of f/16 to create a large depth-of-field and set your ISO to 100 to minimise image Noise.





Michael's shot was taken with a Sony A7R with a Sony Zeiss 16-35mm f/2.8 lens set at f/4. His ISO was set to 100 and his shutter speed was 0.5sec.

INCORPORATE LONG-EXPOSURE LIGHT TRAILS IN YOUR STREET PHOTOGRAPHY



EVEN WHEN YOU'RE NOT SHOOTING A traditional portrait shot, the inclusion of a figure can add interest to almost any shot.

For photographer **Michael Lim**, "if I had to choose one field of photography, it would be portraiture," he told us. "I love capturing the human element in my photos; a moment, and its associated emotion, frozen in time, are what make a great photo to me."

"Sometimes, a shot of a person in the context of a street scene or a landscape would be more interesting than just those things alone. I particularly like capturing shots of ordinary people going about their everyday lives. I guess that's why lifestyle and travel portraiture appeal to me."

Michael was in Paris shooting for KLM Royal Dutch Airlines when he came across this unusual photo opportunity. "I'd been travelling primarily by Metro to immerse myself in the daily lives of Parisians. One

of the most important things is to scout for the right location. You'll need a train station or subway with a staircase overlooking the tracks. The metro station at the Cité is the only one I could find that provided the opportunity to shoot from a high vantage point. It has a large, open staircase overlooking the platforms, which means you can look down on the scene and get both subway trains in the same shot."

When asked what tips he'd give others attempting to recreate this style of shot, Michael said: "I'd recommend you avoid the temptation to just shoot the trains and move on – try to introduce the human element to your shots to make them more poignant. Also, the key camera setting here was shutter speed. It was a fine balance to capture the motion of the trains while minimising camera shake. In the end, half a second gave me nice light streaks without too much camera shake. I was lucky the man stayed still as well!"

► www.miketlim.500px.com

Capture motion handheld

- Spend some time finding the right location for your shot. Without the elevated point-of-view, this shot would lose a lot of its impact.
- Street photographers don't often use tripods because they like to remain inconspicuous. It can also be dangerous to use tripods on busy staircases, and on the London Underground they're banned. Instead, brace yourself again a railing or wall to minimise camera shake.
- A shutter speed of 0.5sec will blur fast moving trains and create light streaks, while also allowing you to shoot handheld with a wide-angle lens. Switch your image stabilisation system on and hold your breath to minimise movement.
- Wait until a person enters the frame (or have a friend pose for you) to add interest to a scene.
- Michael shot this image at a wide focal length of 28mm (roughly 18mm on an APS-C camera) to get as much of the scene in his frame as possible and to minimise the effects of camera shake.

SHOOT INTO THE SUN TO BOOST ATMOSPHERE IN SUMMER PORTRAITS



LIFESTYLE AND SWIMWEAR

photographer **John Schnell** feels at home by the coast and likes to incorporate the sea into his shots whenever possible.

“I do a lot of my work on the beach,” he explained. “In this instance, the model and I were just about to wrap for the day when we noticed the sunset was going to be a particularly good one. The bubbling surf and the softness of the light inspired me and I asked her if she’d mind stepping into the water so I could get a few shots of her backlit by the sun. Luckily, she was a beach girl herself, so she eagerly agreed and off we went!”

John decided to approach the shoot with a minimum of equipment. “I didn’t use any lighting or reflectors, just a Canon 5D Mark

III and a 135mm L-series lens,” John told us. “It’s a pretty amazing lens when you’re shooting wide open at f/2, so I had to use a really fast shutter speed of 1/5000sec to avoid overexposing.”

Shooting into the sun can be a challenge. John explained how he deals with the bright lighting: “It’s easy to overexpose the shot or for the model to appear as a silhouette. I choose not to use reflectors or flashguns, so I tend to increase the Exposure Compensation so that the model’s features are clearly visible. This necessitates blowing out the sky detail, but that can add a lot of impact to the shot when done intentionally. I’d recommend you focus on the emotional content of your shots, rather than striving for technical perfection with complicated lighting setups.”

► www.johnschellphoto.com

Shoot backlit lifestyle portraits

■ John’s style of photography involves shooting handheld with natural light and with the minimum of kit, so try to find a beach with light-coloured sand that can act as a natural reflector when the sun sets.

■ Set your camera to Aperture priority mode (A or Av on the mode dial) and select your largest available aperture to create a shallow band of sharp focus.

■ Your camera’s light meter will automatically expose the shot for the sky, meaning the model will appear in silhouette. Increase the Exposure Compensation until their features are visible.



John’s shot was taken with a Canon 5D Mark III and a Canon 135mm f/2 lens at its maximum aperture. His ISO was set to 100 and his shutter speed was 1/5000sec.





Harfian's shot was captured with a Nikon D3200 and 50mm f/1.8 lens set to f/2.5. His ISO was set to 200 and his shutter speed was 1/100sec.

USE BOKEH LIGHTS IN YOUR BACKGROUND TO MAKE CLOSE-UP NATURE SHOTS POP



WHILE MOST MACRO AND CLOSE-UP photographers concentrate on their subject, nature photographer **Harfian Herdi** paid equal attention to his background to achieve this

striking shot. "I was shooting with a 50mm lens, which is, strictly speaking, not a macro lens," Harfian explained. "However, it's inexpensive and allows me to include a little more of the background in my compositions. I find that if the subject is large enough, this lens produces good results – you don't need expensive, specialist gear to get an eye-catching picture."

Although it has the polish of a shot that was taken in a studio under controlled lighting

conditions, Harfian actually shot these snails outdoors, using only natural light. "The sun was behind the snails and the droplets of water on the grass behind them were catching the light. I used a wide aperture of f/2.5 to make sure the droplets would blur."

Photographers looking to recreate his shot will have to bear a few things in mind. "Obviously, if you're interested in shooting snails you'll need to have patience! Also, you'll need to consider your background. If you include water droplets to pick up the light, your bokeh will have more impact. If necessary, take a water spray bottle with you to make sure your backdrop sparkles," Harfian advised.

► www.500px.com/vianz

Shoot nature with sparkle

- Choose your location with care. You'll need to make sure the sun (or your main light source) is out of shot and facing you so the water droplets are backlit.
- Use a 50mm prime lens or a kit lens and set your camera to Aperture priority mode (A or Av on the mode dial). Dial in the largest aperture (the lowest f/number).
- For slow-moving subjects like snails, you can attach your camera to a tripod without fear of missing a shot. Prefocus on the snails, then switch to MF to lock it in place.
- Spray the grass behind your subject with a water bottle if necessary to get some droplets that will catch the light.

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Into the woods

Now is the time to visit local woodland to embrace creative opportunities that'll help your photography grow...

WORDS & TECHNIQUES BY JON ADAMS & MATTY GRAHAM

THE UK MAY BE A SMALL AND crowded place, but despite this, over 12% of our land is forest and woodland. This means you're likely to find some woods, however big or small, within ten minutes of your doorstep. Woodland is not only a fantastic place to escape, it also offers stacks of fantastic photo opportunities beneath the canopy. From wide-angle views of morning light breaking through the trees to close-ups of

colourful nature – you'll find a wealth of subjects and ideas to inspire you.

Of course, woodland is a great photo resource at any time of the year, but right now, something special is happening. With spring in full flow, the forests are alive as bluebells flood the ground with a carpet of colour, and blossoming foliage diffuses the harsh spring sun to provide pools of light and shade.

This feature outlines five essential

projects that will arm you with the practical and technical skills needed to bag some brilliant woodland shots. They're all easy to achieve, and will not only boost your camera skills, they'll also give you images ready to frame and display on the wall.

But remember, these photo moments are fleeting, and nature won't wait, so grab your camera, and get to your local woods right now!

Shooting skills you can put into practice today



SHOOT ARTY TREES
Paint with a camera **p28**



CAPTURE A BLUEBELL
Blur backgrounds **p30**



TAKE NATURE SHOTS
Colourful close-ups **p32**



SEE FORESTS IN HDR
Multi-shot frames **p34**



SET UP A STILL-LIFE
Slow shutter scenes **p36**

Paint with a camera

Create impressionist-style art by taking a shot on the move

PROJECT 1
BLUEBELLS
THE ARTY
WAY!

A COPSE OF SLENDER-TRUNKED trees sitting on a lush carpet of vibrant bluebells is the perfect setting for this fantastic technique. With a suitable scene and a D-SLR or CSC, you have all you need to capture a striking shot that's highly creative and truly beautiful.

If you've ever wanted to paint, but have never quite found the time to develop the skills, this project is an absolute must as it allows you to create a Turner-esque picture without the use of brushes or canvas. The results will look fabulous in the form of a

large print, and the fact that the entire work of art is created by you in a single shot makes it all the more satisfying.

Although the shot itself requires a trial-and-error approach, following the step-by-step will give you a great image in less than five minutes of shooting time – not much investment for a spectacular picture that's immensely rewarding.

Finding the right location is vital, but bluebells reappear every year in the same woodland areas. We're fortunate in the UK, as our small islands hold about half the

world's bluebell population, but you need to get this shot now as they only flower for a few weeks in late spring. Miss the opportunity and you'll have to wait a whole year, so recce your local woods and keep your camera at the ready.

Once you've found the right spot, you need to include the bluebells at the bottom of your frame to give a rich swathe of colour. When moving the camera to get the effect, some find it easier to tilt up rather than down, but both movements will give equally successful results. If in doubt – try both!

This arty shot was captured in Rutland. A shutter speed of 0.3secs was used with an aperture of f/22, and the camera was tilted down during the exposure to create the impressionist blur.

Capture in-camera art in four easy steps



Set up your camera

1 Although this technique relies on a slow shutter speed, the best exposure mode to use is actually Aperture priority (A or Av on the main mode dial). You need to restrict the light entering the lens, so set your ISO to its lowest value (normally 100) and then dial in your minimum aperture. On most lenses this is a setting of f/22. These two settings will produce the slowest possible shutter speed for the light conditions you're shooting in. Ideally, you want a shutter speed between 1/3 and 1/10sec.



Focus on the nearest trees

2 With your camera settings dialled in, now frame up on a group of trees. Thin-trunked varieties like silver birch work really well, and it's best if you can see a little sky through the trees, so don't go too deep into the woods. Use the wide end of your zoom lens (around 18mm on an 18-55mm kit lens is perfect, and half press the shutter to lock focus on the trees closest to you. Once you have a focus lock, maintain the half pressure on the shutter button to keep it set at this distance.



Tilt down and shoot

3 Aim your camera upwards and then practise a smooth flowing movement by locking your elbows and tilting the camera down, using your shoulders as the pivot point. When it feels natural and continuous, start the movement down and then fire the shutter. Keep moving the camera at the same speed, and when you hear the exposure end, follow through to ensure you keep the tilting action smooth and free of any jerkiness.



Check the screen & reshoot

4 Inspect the results on screen. If the trees are too defined and there's not enough impressionist blur, reshoot with a faster tilting movement. If you have too much blur, either set a larger aperture of f/16 and repeat the movement at the same speed, or leave the aperture at f/22 and move the camera more slowly. If you find the downwards motion tricky, try tilting up with the same settings as an alternative.



You'll get a great image in less than 5 minutes!

JON ADAMS

Create a different in-camera motion blur effect with your zoom ring

Another way to add movement and energy to your bluebell scene is to try a 'zoom burst' technique. As the name suggests, this involves twisting the zoom ring on your lens while the shutter is open. This creates a streaking zoom effect that draws the viewer's eye to the centre of the frame. A shutter speed of at least 1/2sec is needed to give you time to turn the zoom ring during the exposure.

If conditions are too bright for this shutter speed bright, you may need to reduce the light levels in the scene by placing a polarising or Neutral Density filter ND in front of the lens.

Set up your camera as above, and if possible, use a tripod to lock your camera in place. Start zooming the lens, and then fire the shutter. Continue zooming after it closes to ensure a smooth burst.



MATTY PROCTER
MATTY GRAHAM

Adding a zoom burst effect to a field of bluebells will give an abstract shot packed with energy. All you have to do is twist your wrist!

Shoot a lone bluebell

Single out a solitary bluebell against a blurred background of colour

PROJECT 2
DELICATE
FLORAL
STUDIES

WHILE THERE'S SOME AMAZING images to be had of forest floors flooded with bluebells, taking a closer look at just one of the flowers will give a fantastic portrait of this fleeting wonder of spring. But you need to go about it in the right way to make your subject stand out.

A dedicated macro lens is the ideal optic, but an 18-55mm kit lens can still produce fantastic results provided you take care setting up your shot. The aim is to get a frame-filling image that will not only showcase the beauty of the flower, but also separate it from its surroundings by throwing the background into a diffused blur.

The challenges when attempting to capture a shot of this nature are not only concerned with aperture choice, focus and lighting, but also colour. Bluebells are one of the flowers that can be hard to record with the right hues – despite the name they can often look too purple. However, there's some easy steps you can follow in Photoshop and Elements once you've shot the image to quickly correct any colour inaccuracies your camera produces.

Once you've located a nice patch of bluebells in the woods, take a moment to walk around the edge of the flowers for a good example that doesn't have torn petals. Take care to preserve the patch by staying at the edge,



JON ADAMS

Capture a flower with a sea of blur



Get steady with a tripod

1 Attach the camera to the tripod and adjust the angle of the legs so you can lower the tripod height. Aim to compose the subject so that the camera is parallel to it, rather than tilted forward or back.

Zoom in for a tight composition. The longer focal length will rid the frame of distractions and intensify the background blur.



Select your settings

2 Keep the ISO at 100, and select Aperture priority mode. This gives full control over aperture, while the camera selects the shutter speed. Dial in the largest aperture available (f/5.6 on most kit lenses at 55mm). A large aperture will keep the subject in focus, but will blur the background.

rather than treading down the other flowers in pursuit of your image.

With any woodland shot, the tree canopy will reduce light levels. This will result in a slower shutter speed. If you are handholding the camera, you can increase the ISO value to compensate for this. However, to get the best image quality, mount your camera on a tripod. This will allow you to shoot at the lowest ISO setting, and get a sharp shot with a slower shutter speed. Pick a spot sheltered from the wind to do this, as you need your bluebell to remain absolutely still.



Refine focus with Live View

3 Focus on your subject then switch to Manual Focus (MF). Activate the Live View function and turn the focus ring until the flower is sharp on your screen. Magnify the focus area to get a bigger view. Once you're happy with the focus, you can turn Live View off.



Activate the Self-timer

4 Pressing the shutter button can cause vibrations that lead to camera shake and unsharp pictures, so use a cable release or set the Self-timer to 2secs. Take the shot, then review your image on screen to ensure it's sharp and well exposed.

A kit lens can produce great results provided you set it up in the right way



Fine-tune your colours

The colour of bluebells is notoriously difficult for cameras to reproduce. To address this, open the image in Photoshop/Elements and then go to the Layers palette. Click the Adjustment Layer icon (the half black/half white circle) and select Hue/Saturation from the list. When the palette appears, click on the Master box and select Blue from the drop-down list. Adjust the Hue and Saturation sliders to get the look you want. Now select Magenta, and repeat to get the perfect Bluebell colour mix.

Using a large aperture to record a solitary bluebell will throw your background into an attractive blur.



Insects are abundant in woodland, and their bright colours offer fantastic photo opportunities under the magnification of a macro lens.



PROJECT 3
CLOSE-UPS
OF FAUNA

Capture nature's colours

Take a closer look at the forest's tinier, yet highly vibrant inhabitants...

MENTION THE WORD 'FOREST' and people's minds will often picture trees, streams and lots of greenery. The most colourful subjects though are somewhat harder to spot. Ladybirds, butterflies and even roaming bees can help produce amazing pictures that tell a woodland story on a much smaller scale.

Because these critters are so small, you need a lens that can focus really close and magnify the subject. While most 18-55mm kit lenses allow you to shoot fairly close, encroaching too much on an insect's space will either cause it to be spooked and fly away, or you'll find yourself dowsing it with your own shadow. This will spoil the lighting and slow down the shutter speed. The solution is to

either invest in a dedicated macro lens, which costs from around £250, or try a more affordable accessory, such as a close-up filter (from around £20). Alternatively, if you have a telephoto zoom like a 70-300mm, many of these offer a 'macro' option at the long end and can fill the frame with smaller subjects.

Instead of simply pointing and shooting, there are a few techniques you can use to get better results. This could be enhancing the light on your subject using a reflector, or mimicking the effect of early morning dew by using a water spray to produce a fine mist. Whichever technique you choose, make sure the point of focus is definitely on your subject as when shooting close-ups, the depth-of-field is very shallow.

Although woodland is teeming with insect life, finding these subjects can be tricky as ladybirds nestle behind foliage and most butterflies are camouflaged to blend in. Rather than walking around the woods hunting for subjects, pick a small area and sit down for 10 minutes. Subjects will catch your eye more readily and if you keep still, you may even see them walking over your camera bag!

Ladybirds are active from March, and to get their red shells looking extra vibrant, some post-processing work will pay dividends. The best approach is to shoot in RAW and adjust the colours using Camera Raw or Lightroom. As an alternative, you can use your camera's Picture Style menu to adjust the saturation levels in the JPEG setting for added punch.

Capture vibrant close-up shots



Fix your camera on a tripod

1 Because of the tree canopy overhead, light levels in the woods are low – even if there's strong sunlight. Low light levels result in slower shutter speeds and ramping up the ISO too far will create digital Noise, so a tripod is desirable. Attach the camera to the tripod. If your subject is quite low to the ground, you may have to adjust the angle of the tripod legs. If your lens has image stabilisation technology, remember to turn it off, as it can blur images when the camera is held static on a tripod.



Bounce light with a reflector

3 As light levels in the woods are low, it's worth making every ray work as hard as possible. By holding a reflector below the subject and angling it so that light bounces back up on the ladybird, a more even and professional-looking lighting style can be achieved. Reflectors are versatile accessories that cost from just £15, but you can always make your own DIY versions using cardboard wrapped in tin foil.

Find out about more nature you can photograph in the forest at woodlandtrust.org.uk



Dial in the exposure settings

2 Macro lenses are great for getting close-up views but because of the high magnification involved, they don't give a very deep zone of sharp focus. With the mode dial turned to Aperture priority mode (A or Av), select an ISO of 100 and an aperture of f/11. This small aperture increases depth-of-field, but will also slow the shutter speed. This isn't too much of a problem with the camera on a tripod, but if shake is an issue, gradually increase the ISO value to speed up the shutter.



Add a spray of water

4 To further add a professional touch to your close-up shots, add some fine water droplets to your ladybird. These will sparkle when struck by any direct light and replicate the look of early morning dew. Use a water sprayer, which costs around £2 from a supermarket or garden centre. Set the nozzle so it produces a very fine mist – thicker jets will knock the ladybird from its perch! Spray just a little at a time for the best results.

The best approach is to shoot in RAW and adjust your colours in software

Get your colours to pop!

If you've captured your ladybird in low light levels, you may struggle to get the red of the bug's shell to really pop. Don't worry though, as you can always enhance colours once you get back to your computer. For the best results, always shoot in RAW, as this format captures more tonal information and allows for more editing potential than JPEG.

LIGHTROOM

First import your image, then open it into the interface and select the Develop module. On the right of the screen, scroll down to the HSL tab (Hue, Saturation, Luminance). Locate the Red slider and increase the Saturation, lower the Luminance and, if necessary, adjust the Hue until the red of your ladybird's shell is bold and vibrant.



PHOTOSHOP/ELEMENTS

If RAW isn't an option and you've taken a JPEG, open the image into Photoshop or Elements. Make sure the Layers palette is visible – if not, go to **Window → Layers** to see it on screen. From the Layers palette, click on the Adjustment Layer icon, identified by a half black/half white circle. When the drop-down list appears, select Levels. An Adjustment panel will appear with a Histogram, but if you make any change at this stage it will affect the whole picture. Instead, click where it says RGB and change it to Red. Now move the middle slider beneath the Histogram to adjust the red content of the image. This will warm up the whole frame, giving a sunnier feel.



Use a blue sky as a backdrop to a ladybird shot for a really powerful colour mix.



JON ADAMS

PROJECT 4
SHOOT A
GLOWING
HDR

Take the easy route to HDR

Reveal detail and capture hyper-real scenes with a bracketed burst of shots

SHOOTING HIGH DYNAMIC range images will reward you with shots possessing high levels of detail and texture. An HDR image requires multiple shots of the same scene, and each one is taken at a different exposure setting. By underexposing the image, you record detail in the brightest highlights, and by overexposing the picture, you get detail in the darkest shadows. The mid tones are covered by additional exposures, set to record the scene as normal. A sequence of three images is often enough to capture a great

looking HDR, though some photographers like to shoot seven or more to ensure all the different tones are captured.

Once you've taken the sequence of shots, special HDR software is used to merge them together into a single file possessing the full tonal range of the scene. In a process called tonemapping, you then decide what parts of the shot you want to accentuate. This is often done using presets in the HDR software, so it's simply a case of clicking on different options until you get the look you like.

Set up for HDR images



Frame up your shot

1 Place your camera on a tripod and compose your scene. Set your camera to aperture priority mode (A or Av on the Mode dial). This will ensure that the shutter speed changes between the exposures, rather than the aperture value. Dial in your lowest ISO value (normally 100) and focus on the scene by half pressing the shutter button. Once you have a focus lock, switch the camera to its Manual Focus mode. This will ensure that the focus doesn't change during the HDR sequence.



Taken in a small woods in Rydal, Cumbria, this HDR image required five separate shots to capture the full tonal range of the scene. It was processed in Photomatix software.



Set up auto bracketing

2 Hold down your camera's Auto Bracketing function (often a BKT button on the body, though it's in the menus on some cameras) and set the number of exposures you want in your sequence. Five is a good starting point. Now set the exposure difference between each shot. 1 stop is fine, as it means your camera will take five frames, starting at -2 stops under the metered value, and ending at +2 stops. This will cover a dynamic range sufficient for most contrast-rich scenes.



Take the sequence of pics

3 When you're ready, shoot your five exposures in quick succession. If you don't have a tripod, you'll find that engaging your high speed Drive mode will yield better results, as you simply have to hold down the shutter button and let the camera do the work as you count off five clicks! Check the results on screen, and by scrolling through your images, you'll see the dark, normal and light versions. Remember to set the BKT setting back to 0 frames when you've finished, or you'll be shooting HDR sequences unintentionally.



Create the HDR in software

4 Open the pictures into HDR software like Photomatix (a free trial version is available at www.HDRsoft.com) and click the **Preprocess** button. Once they are merged together, click on the preset you like the look of. We used **Painterly 4** in this example. If you want to further customise the effect, you can tweak the sliders in the **Adjustments** panel. Once you're happy, click **Process** and your HDR image will be created. Go to **File → Save As** and save your dramatic, new-look image as a JPEG.

Revel in the detail

Set up an outdoor still-life that captures the flow of a stream

PROJECT 5
CAPTURE
OUTDOOR
STILL-LIFE

S TREAMS AND WATERCOURSES are common in woodland – they're the lifeblood for the trees and plants, delivering the moisture needed for growth. These small waterways are usually one of the few elements with motion, and you can use this to create spectacular shots literally dripping with freshness and vitality.

A small stream won't look too impressive taken from a wider view, but get in close and you can use its movement as an attractive backdrop, and arrange other elements to create beautiful natural still-life shots. It's just like setting up a table-top still-life

indoors, only you have all the elements of the forest at your disposal to choose from. With the stream as a flowing background, logs, leaves or stones can be used to create an attractive composition.

To make the most of this type of outdoor still-life, you need to control how the stream's movement appears. This is governed by the shutter speed you select. A very fast shutter speed will 'freeze' the water, making it appear static and lifeless. Set too slow a shutter speed though, and the water's movement will be recorded as a misty blur with no real definition. Somewhere between

these two extremes will give you a sparkling image that mixes the best of both worlds, and will provide you with a shot to savour.

Search around the water's edge and seek out a good platform for your subject. A small rock is ideal. To really bring home a sense of freshness and make the shot texture-rich, give it a good soaking and then arrange your leaves on top. For our shot, we dipped the leaves in the stream too, so they'd glisten.

It pays to don your wellies for stream shots, as you may need to wade in to get the best angle, and remember to take a microfibre towel to dry hands and mop up any splashes.

Turn the woods into your outdoor studio



Find the right spot

1 Find a little waterfall in the stream as this will provide extra interest in the background. Once you've found a rock platform for your subject, set up your tripod. Put it in the stream if necessary, and lower the leg sections so you can frame up with the platform in the foreground and the waterfall in the background.



Focus on the subject

2 Attach the camera to the tripod and frame up, positioning your leaves or stones on the rock platform. Use a wide-angle lens to emphasise the subject, and ensure the camera is close to it. Move the AF point so that it's over the foreground subject. Half-press the shutter to focus, then switch to Manual Focus.



Select too slow a shutter speed and the water will become as a misty blur and lose definition.



Dial in your settings

3 Keep your ISO at its lowest setting (usually 100). Select Shutter priority mode (S or Tv on your mode dial) and start with a shutter speed of 1/60sec – the camera will automatically select the appropriate aperture. Take a test shot and review it on the screen.



Fine-tune the exposure

4 If the water is too sharp, dial in a longer shutter speed of 1/30sec, and reshoot. If it's too blurred, do the opposite and use a faster speed of 1/125sec. If you lose any highlight detail, adjust Exposure Comp to -1.0 (using the +/- button) to darken the image.

Sharpen your stream scenes using Photoshop

You can enhance the clarity of your still-life to really bring out the detail. Use the Lasso tool to make a rough Selection around your foreground subject, and then click Refine Edge.

Move the Feather slider to 100px and click OK. Now go to Filter → Sharpen → Unsharp Mask. In the dialogue, set Amount to 100%, Radius to 1 and Threshold to 0, then click OK.



GET CREATIVE TODAY

Arranging a still-life at the edge of a watercourse gives a shot dripping with freshness.

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Discover the essential shooting skills you need to capture striking pictures

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FRESH IDEAS

Capture abstract art [p40](#)



CREATIVE CAMERA

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ESSENTIAL SKILLS

Lighting tips for people pics [p46](#)



INSIDE THE IMAGE

Dramatic angles at sea [p52](#)



INSTANT EXPERT

Imaging software at a glance [p54](#)

Jon Adams

Jon's easy-to-follow shooting projects have inspired enthusiasts right across the planet.



Ben Davis

An award-winning press photographer, Ben's passion for helping snappers achieve their goals knows no bounds.



Andy Heather

A pro photographer and trainer, Andy's imaginative techniques will take your skills to the next level.



Dan Mold

After years advising on gear in retail, Dan's here to transfer his skills behind the lens directly to you.



Matty Graham

Pro photographer Matty is on hand to help you set your sights high and reach new creative goals.



An abstract photograph featuring a dense cluster of pink and purple fibre optic cables. The cables are illuminated from below, creating a bright, glowing effect. Several large, out-of-focus red circles are visible in the upper left, and numerous small, golden-yellow dots are scattered throughout the scene, resembling sparks or light particles.

SHOOT A FIBRE OPTIC ABSTRACT

TECHNIQUE & PIC BY JON ADAMS

IMAGES THAT SERVE UP A CAREFULLY CONSIDERED arrangement of shapes and colours can be as exciting and satisfying as those focused on more recognisable subjects. Shooting abstracts requires a different mindset to more traditional photographic styles, as you have to remove yourself from the idea of representing something real. Instead of looking to show a subject in an identifiable way, you simply look for a composition that records shapes and colours framed in a balanced and attractive way. Abstract art grew in popularity alongside the development of photography. Once we had cameras that could record the 'real', many artists decided that there was little point in representing reality in their paintings, and looked for different ways to express themselves. Abstract photography uses your camera's sensor as a canvas for arranging shapes and colours, and a cheap fibre-optic lamp is the perfect subject to create your own artistic statement!



How to create your own abstract images

Use a macro lens & tripod

1 To get the best results, use a macro lens on a D-SLR or the macro mode on a compact. Put your camera on a tripod, as the light levels from fibre optic lamps are too low for shooting handheld. Also, you need to be really precise with your framing, and a tripod encourages this. The subject itself can be bought for under £10 – look for one that changes colours.



Compose your shot

2 Switch off the room lights and frame up looking down on the lamp so you have an attractive arrangement of shapes and colours. The colours will keep changing, and you want to record the transition so two colours are showing at the same time. Switch your camera to Manual Focus and rotate the focus ring to get a mixture of sharp and defocused shapes.



Set up your camera and shoot

3 Turn on Live View mode to make composition and focusing easier, and set the main mode dial to Manual. Set ISO to 100, and dial in an aperture of f/10. Adjust the shutter speed until the exposure indicator bar is centred. It will keep moving as the light changes, but 1.3secs was used for our shot. Set your Self-timer to 2secs to avoid joggling the camera, and take a series of shots, timing your shutter to coincide with the change in light colour.

ALONE IN A CROWD

TECHNIQUE & PICS BY MATTY GRAHAM

DESPITE BEING IN THE MIDST of a chaotic environment, people always find ways to escape from the hustle and bustle. It's not unusual to see someone completely immersed in their own world, oblivious to the rush of activity going on around them. Whether they're peacefully reading a book, checking the screen on their phone or caught up in whatever's coming out of their headphones, they've found their own way to insulate themselves from their busy surroundings.

Capturing the inner peace of this detached state is the aim of this creative shot, as our city commuter becomes lost in the music pumping through the headphones while the rush continues around him. To tell the story, you need to

freeze time for your main subject, so they appear suspended in a different zone to everyone else. This can be captured in any busy place by picking out a static figure in a sea of commuters or shoppers, but it's easier to keep control of the shot by having a model who has been primed not to move when you're shooting.

The motion around them will be recorded as blur if your exposure time is sufficiently long. To avoid camera shake, a tripod is needed, unless you're able to brace your camera on a railing or other fixed surface to get a steady shot. If you're indoors, the light levels will be low enough to achieve a slow shutter speed using a small aperture setting. But for outdoor shots, you'll need an ND filter or a polariser to reduce the brightness of the scene.

Key skills you'll learn right here



CAPTURING MOVEMENT WITH A SLOW SHUTTER

A slower-than-normal shutter speed will record static subjects in a regular way, but anything moving in the scene will be rendered as blur. The slower the shutter speed, the more blur you'll get, and this project reveals how you can set up your camera's controls to allow a slower shutter speed to be used.



PREFOCUSING USING MANUAL FOCUS

To avoid your camera's autofocus system 'hunting' as people walk in front of the lens, Manual Focus can be used to fix the focus distance on a certain point and prevent it from changing after you've set up the shot. AF can still be used to get the subject sharp, but switching to MF will keep it locked in place.



LOCKING OFF A TRIPOD

Once a shot has been composed, the camera can be locked in place on a tripod. This means the camera won't move during the exposure, and also means the shot can be repeated as many times as you like while you adjust the settings to get it just right. This is an important shooting method used for many creative capture techniques.

**You need to freeze
time for your subject
so they're suspended
in a different zone to
everyone else**



How to shoot a static soul in a rush of people

To get a great image, you need a model who can stay absolutely still in a moving crowd. Having the model hold a prop can help them keep their balance better, so to tie in with our 'morning commuter' concept, we handed our subject a briefcase.

If you set up too close to your subject, you'll find that many people will politely stop and wait for you to take the shot, or they'll walk behind the camera to avoid disturbing you. Either way won't give a successful result, so if you can't set up from a more distant vantage point, take shots from nearby without looking through the viewfinder. While you're doing this, act as though you're distracted by something else – fiddle in your camera bag or with your phone – so no one will think they're interrupting a photo shoot, and will walk through your scene.

PROPS

Find something for your model to hold or use that they can focus on – headphones or a book will work well.

LOCATION

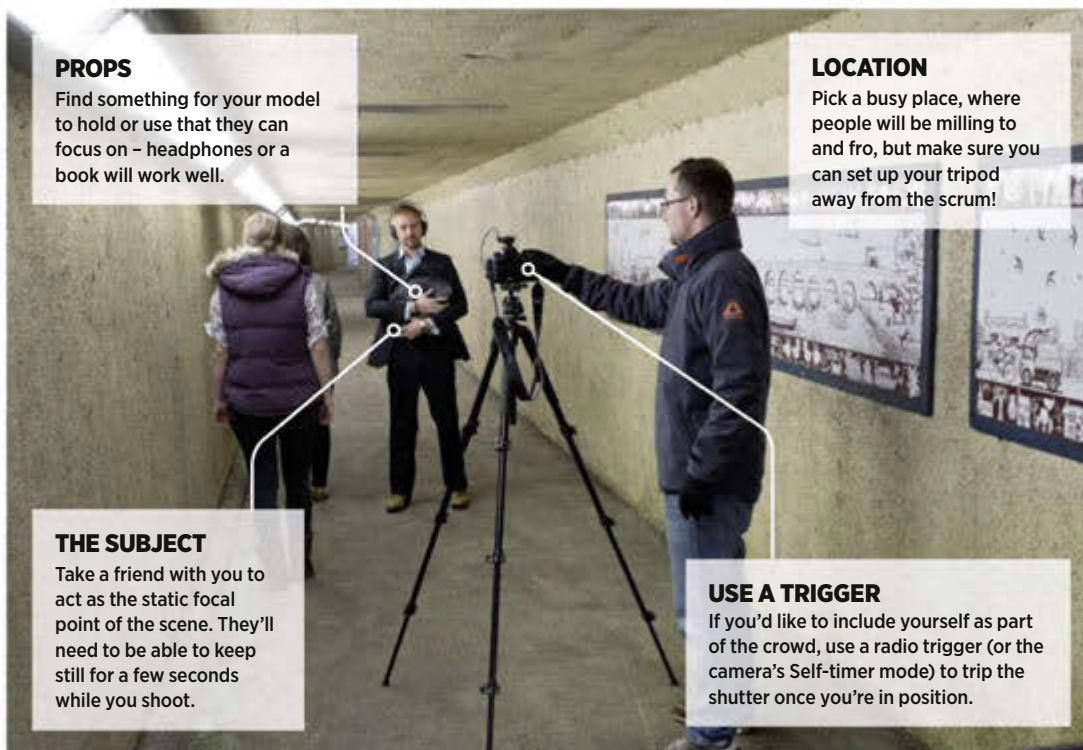
Pick a busy place, where people will be milling to and fro, but make sure you can set up your tripod away from the scrum!

THE SUBJECT

Take a friend with you to act as the static focal point of the scene. They'll need to be able to keep still for a few seconds while you shoot.

USE A TRIGGER

If you'd like to include yourself as part of the crowd, use a radio trigger (or the camera's Self-timer mode) to trip the shutter once you're in position.



Take your model to a busy location

1 Find a busy place where you're able to set up your tripod away from the hustle and bustle. Workers leaving their office blocks, commuters walking down a narrow tunnel to the station, or a shopping honeypot in a town centre are all good choices. A narrow walkway, such as our tunnel, works well as it funnels the public by your subject, making sure they appear in the frame. Find a good spot for your model to stand or sit in the thick of the action. Frame up to feature them towards the centre of the shot, but leave plenty of room around them to record the people walking past in the background. Too loose a frame is better than too tight, as you can always crop in on the shot later.



Dial in your camera settings

2 Switch the main mode dial to Aperture priority (A or Av mode) and dial in a small aperture of f/22. Set the ISO to its lowest value of 100. These two settings will give you the longest possible shutter speed in the light conditions. Frame up exactly how you want the shot, and lock the tripod's head so the camera can't move. If you have an image stabiliser enabled on the lens, switch it off. Place the active AF point over your subject's face, and half press the shutter button to lock the focus. Now switch to Manual Focus, so the focus point won't move, either. Check the shutter speed in the viewfinder or on the info screen. You're now locked-off and set up to shoot.



Take test shots to establish the best shutter speed

3 Get your model to hold their position and when there's a busy scrum of people around them take a test shot. Check the image on screen. If there's too much movement, and the people in the background are blurred so much that they're indistinct, you need a faster shutter speed. To enable this, close the aperture to f/16 and try again. If the passers by are not blurred enough, place a Neutral Density or polarising filter over the lens to reduce the light levels in the scene. This will extend the length of the shutter speed. Take additional test shots until you have the amount of blur that works best for your scene.



Tech talk

SHUTTER SPEED

This denotes the amount of time the camera's sensor is exposed to light. Very short shutter speeds like 1/2000sec freeze all the movement in a scene, whereas long shutter speeds such as 1sec or more will record any motion as blur. How much blur is recorded in the shot depends on how fast the subject (or the camera) is moving.

F/NUMBER

This is the setting for the aperture value. A low f/number like f/2.8 or f/4 opens the diaphragm in the lens very wide to let in more light. A high f/number like f/16 or f/22 closes it down to let less light pass through the lens.

LAYER MASK

A device found in imaging software like Photoshop that allows parts of an image Layer to be hidden or revealed. A Mask is attached to a Layer, and when white is painted into it, the contents of the Layer will be shown as normal. When black is painted into the Mask however, a 'hole' appears in the attached Layer and allows the Layer beneath it to show through.



Shoot multiple images

4 Tell or signal your model to freeze again, and start shooting. Capture a number of shots with people milling around them in different directions, checking the screen and adjusting aperture if needed to increase or decrease the amount of blur recorded. When you have a good brace of shots, signal your model to relax. They only need to keep absolutely still for one shot, but it helps if they're not moving throughout the shooting process. If you're lucky, you'll have got a fantastic shot in a single frame, but provided you have a number of reasonable shots with a good set of blurred people, you can create the final effect in imaging software.

Enhance the rush of the crowd in Photoshop

By locking off your camera and taking multiple shots, you can blend the best parts of the different frames together in Photoshop or Elements to create the final image.

To do this, open the best shot with the static model first. Next open a shot with a good throng of blurred people and hit **Ctrl+A** to select it followed by **Ctrl+C** to copy. You can now close this shot down with **Ctrl+W**.

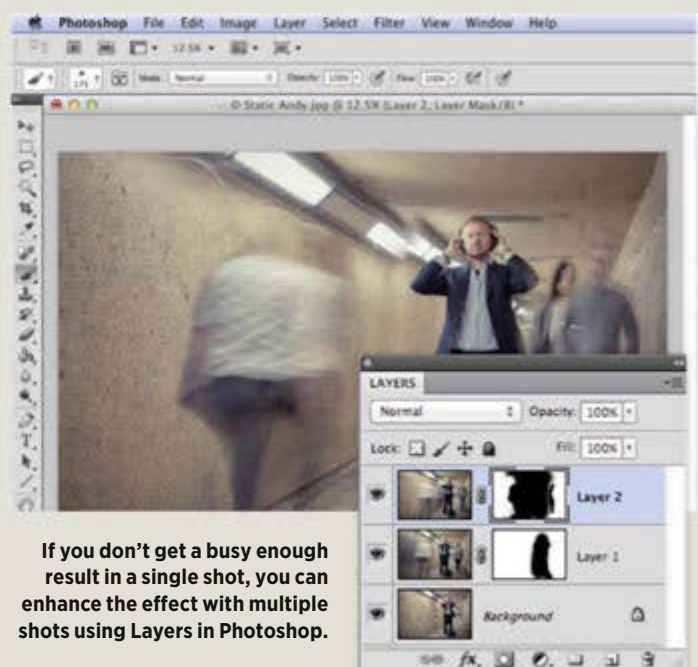
With your model shot back on screen, hit **Ctrl+V** to paste the blurry pic over the top, then open the Layers palette (**Window→Layers**). Click on the **Add Layer Mask** icon, and you'll see a white rectangle appear alongside the top Layer. Hit **D** then **X** to reset the colours, and select a soft-edged brush.

Paint over the model to allow the Layer from beneath to show through. You can also paint

over any other areas that you wish to bring through from the bottom Layer.

Now open another image with a good set of blurred people, and use the same sequence of keystrokes (**Ctrl+A**, **Ctrl+C**, **Ctrl+W**, **Ctrl+V**) to add it to the master image. Add a Layer Mask to this, and paint black into it to reveal elements from the Layers beneath. If you make a mistake with your masking, and paint out something you shouldn't have, hit **X** to swap to a white brush, and paint over the error. Continuing in this way will soon allow you to build up a really busy scene, with blurred people moving all around your static subject.

When you've completed the editing and masking, go to **Layer→Flatten image** and save the file under a new name via **File→Save As**.



If you don't get a busy enough result in a single shot, you can enhance the effect with multiple shots using Layers in Photoshop.

LIGHTING FOR PORTRAITS

Discover the tips and tricks used by top portrait photographers for your best-ever people pictures

WORDS BY BEN DAVIS



MOST PHOTOGRAPHERS FEED off the buzz that occurs whenever a great shot is captured to card. It's the moment that all those hours of practice and hard-earned pounds invested finally pays off, and you feel excited to share your photograph with others. Capturing a striking portrait is guaranteed to generate that buzz.

The success of any portrait is built on two key things: a considered composition and effective lighting. The composition can be fine-tuned later on using the Crop tool in

Photoshop, but the light is much trickier to adjust in post-processing. This is why learning how to light a portrait effectively is one of the most rewarding aspects of shooting portraits.

It's also one of the most challenging elements, too. The lighting used plays a huge role in determining the mood of your image, so it's important you know what look you want to create before you capture the shot. Soft lighting tends to be more flattering and implies a gentle characteristic, whereas hard lighting with strong shadows produces a more

rugged and dramatic feel to an image.

Understanding how to achieve these different lighting effects is a valuable skill to master. It doesn't matter if you prefer to work with natural light or the more controllable output from a flash – knowing how to sculpt light to get the results you desire will transform your photography.

Not only will your people pictures be top-notch, but that soul-affirming buzz will be coursing around your veins more frequently too!

Working with natural light

Despite coming from a single source, the light from the sun has multiple characteristics. It can be harsh and direct, soft and diffused or warm and contrasty, with lots of variations in between due to environmental factors. All these types of natural light have different implications for portrait photography, but more often than not, using a reflector will enhance your outdoor people pictures.

The most flattering light is always diffused. It means the light is soft, with no deep, hard-edged shadows, no lost highlights and minimal glare reflected from the skin. Overcast conditions provide great opportunities for portraits for these very reasons. But sometimes the light can be a little too flat and the colours disappointingly cool. To overcome this, you can use a gold-sided reflector. This will bounce warmer light onto your subject and help create extra contrast to give an edgier result.

Sunny days on the other hand offer a different set of opportunities as well as difficulties to overcome. Direct light often creates problems with strong shadows and blown highlights, as well as causing your subject to squint. The solution is to always turn your subject's back to the sun. Do this and you'll create a halo of rim lighting that will separate them from the background, while making your image more three-dimensional. To combat the contrast, use the white side of a reflector to bounce light onto your subject.



Shooting with your subject's back to the sun will create attractive rim lighting around their outline, while a reflector will fill in the shadows.

USING REFLECTORS

A collapsible 5-in-1 reflector is one of the simplest yet most versatile bits of kit you'll ever own. Prices online start at around £15 for an 80cm model, but the investment will pay dividends with your portraits. These reflectors have five surfaces which all produce different effects. The outer skin can be unzipped and inverted to access the different surfaces, and the inner fabric can be used too.

The white side reflects a soft and neutral light, with minimal contrast. It's best used in bright sunlight. The gold side offers a much warmer light with good contrast. It's ideal for dull days or to emphasise the light at sunset. The silver side bounces lots of light back, so is great for dim conditions and for create extra contrast. The black side isn't a reflector at all, but rather an anti-reflector. Referred to as a 'flag', it blocks light on one side to create shadows and add depth to a portrait. The translucent centre of the reflector is used to diffuse direct light. When held above your subject, it will soften the light from the sun to create more gentle shadows.



A 5-in-1 reflector offers a selection of surfaces for different lighting effects.

Using window light for flattering portraits

Sunlight diffused through a window is ideal for indoor portraits, as it acts like a studio softbox to create gentle shadows and square catchlights in your subject's eyes. South-facing windows will give you the brightest light source, but any direct light will produce a harsher contrast. For the most flattering results, it's best to modify the light. This can be done with a patternless net curtain, the translucent part of a reflector, or by taping some white baking paper to the window frame. Angle your subject so that the window light falls diagonally across their face, to create a split lighting effect.



POP-UP FLASH

An easy way to pep up outdoor portraits is to use your camera's pop-up flash. It may seem counter-intuitive to use flash when there's plenty of daylight, but there are a number of benefits.

Firstly, the flash light will help lift any shadows – particularly around the eyes and under the nose – which is a common problem when taking portraits in daylight. Secondly, it will create catchlights in your subject's eyes, adding life to their expression. And thirdly, a blip of flash will help your subject stand out against the background, increasing their impact in the frame.

Press the release button to activate the flash. Most cameras will allow you to adjust the flash power in the menu.

Anatomy of portrait lighting

While portrait lighting is very diverse, with various interplays of light and shade, there's a number of shared characteristics amongst the different styles.

Understanding how they work is essential if you want your people pictures to be as impactful as possible.

CATCHLIGHTS

These specular highlights put the sparkle in your subject's eyes. They're simply a reflection of the light source, but are vital in adding zest to any portrait. Their shape matches that of the light source, and sometimes eyes can have multiple catchlights, if there are multiple lights illuminating the front of your subject.

LIGHT DIRECTION

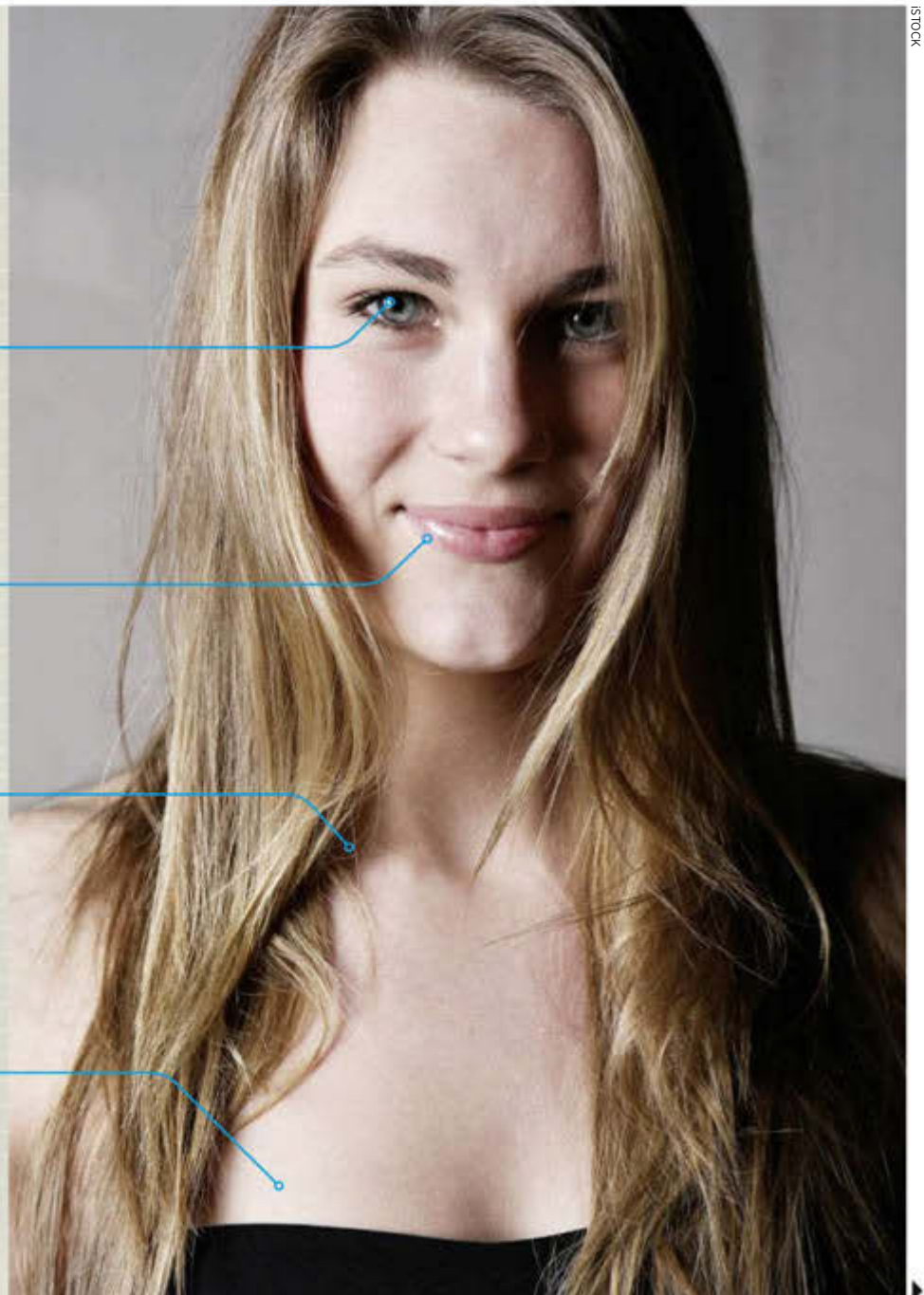
The direction of the light has a huge impact over the mood of any portrait. It dictates which parts of the face are lit, and which fall under shadow. This is how depth is created in a portrait, giving it a three-dimensional effect for a more attractive image.

SHADOWS

Shadows play an important role in creating depth and adding interest to a portrait; but for the most flattering results, soft shadows are generally more desirable. This means the edge to the shadow is feathered, and overall they are not too dark so still contain some detail. Take care that the shadows don't accentuate features negatively, such as making noses appear bigger than they are.

HIGHLIGHTS

If there are shadows, there must be highlights, but make sure the latter are not so bright that detail is lost. The skin – particularly when make-up is involved – can be quite reflective so watch out for this in your images. Try moving the light source further away, or angling your subject so skin doesn't 'shine' and reflect light back at you.



Control light with an accessory flashgun



In order to take full control over the light in your portraits, you'll need to use a flash. An external flashgun is best, as it provides more power than the pop-up unit built in to your camera and also gives directional control of the light. But like direct sunlight, the light from a flash is harsh and hard-edged, and used unmodified, will give unflattering results, especially when fired from close to the lens.

One way you can get softer light indoors is to bounce the flash off a nearby wall or ceiling. This will help to spread and diffuse the light, and because bounced flash illuminates your subject from a different angle to your shooting position, it will create

the depth required for a more interesting image. Be aware though, that the light will take on the colour of the surface it is reflected from, so use white or neutral surfaces to avoid unwanted colour casts.

More advanced flashguns come with a built-in bounce card. This is a small, reflective white card attached to the top of the flash head, and is used to throw some light forward when the flash is pointed upwards, helping to create solid catchlights in the eyes and providing a wider spread of light.

If your flash doesn't have one, you can easily add a bounce card yourself, using a small piece of white card held onto the top of the flash with an elastic band.

Off-camera flash

Portrait photographers prefer to use off-camera flash, as it means the light source can be placed anywhere around the subject, giving full creative control. It's easy and affordable to use your flashgun remotely, and can be done in a number of ways.

The simplest and most affordable method is to use a flash sync cable, and they cost as little as £3. One end attaches to your camera, and the other to your flash. With this simple connection, you can now use off-camera flash for your portraits. Most photographers find a tethering cable between camera and flash to be a real nuisance, and so instead opt for wireless triggers.

Wireless triggers – sometimes called radio triggers – can be picked up for around £15 for a basic pair, but can cost several hundred pounds at the upper end of the scale. One unit

attaches to your camera's hotshoe, and the other to your flashgun, and a radio signal is transmitted between them which tells the flash when to fire. They're very simple to use – you just need to ensure both units are set to the same channel so that they can communicate. With a pair of wireless triggers, a world of new options are available to you for lighting your portraits.



Wireless triggers start at £15 and allow you to place a flashgun anywhere in the scene.



Hard light v Soft light

The apparent hardness of the light is dictated by the size of the light source. The bigger the light source, the softer the shadows will appear in the image, as the light spans a greater angle across the subject. Both hard and soft light have their place in portrait photography, but for the most part, soft light gives the best results.

To achieve a bigger light source, the flash needs to be diffused through a modifier to increase its area and spread the light.

HARD LIGHT



SOFT LIGHT



BEN DAVIS

The hard light from an undiffused flash gives bright highlights and hard edged shadows, whereas diffusing the flash feathers the edge of the shadows, giving softer lighting with more flattering results.

Diffusing flash light with a modifier

To create softer light with an off-camera flash, you need to increase its area and spread it using a modifier. The two most common modifiers are softboxes and shoot-through umbrellas. Both give great results, but have their own pros and cons.

A softbox gives more directional control, whereas an umbrella spreads the light in all directions so you don't get as much precision. However an umbrella will give circular catchlights in your subject's eyes, and these are usually more attractive than the square reflections from a softbox. Both devices can be bought online from a wide variety of manufacturers, with prices starting at around £20. If you want to use an umbrella you'll need a bracket to clamp it in place (bought separately), whereas the softbox will attach with a built-in strap or clamp. A lighting stand is essential to hold everything in place and make the light easy to position. These start at £20, and collapse down into a tripod-sized bundle, making them easy to carry.



With a flashgun softened by a light modifier, you get studio style lighting in a portable package.



FEATURES
INTERFACE
PERFORMANCE
VALUE FOR MONEY
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Digital Photo 6/2014 tested PortraitPro 12

"Affordable retouching software that brings out your models in their best light." 5/5 stars score.

Digital Photo June 2014



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WHERE TO POSITION YOUR LIGHT SOURCE

Armed with just a flashgun, a set of wireless triggers and a modifier to diffuse the light, you can achieve stacks of fantastic lighting effects for your portraits. Much of the pleasure of this discipline is experimentation and discovery. You have complete freedom over

where you decide to place your light source, and every different angle and position you try will have a different effect in your images. Although experimentation through trial and error is the key to creating a new look, there's a few classic lighting treatments that provide

tried and trusted results. Below are the three most popular single-light setups used by portrait photographers.

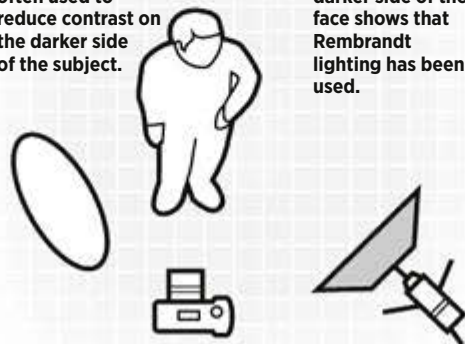
They're all easy to achieve, and will give your portrait pictures a high-end, professional-looking finish.

Rembrandt lighting

This lighting technique is named after the Dutch painter who favoured the effect in his portraits 350 years ago. It's characterised by a triangle of light on the cheek on the lesser-illuminated side of your subject.

The light is placed high and at one side to the front of the subject, at around a 45° angle. This means one side of the face will be well lit, with the other side gently falling into shadow. The key is the triangle of light on the shadow side of your subject. It should be no longer than the eye and no wider than the nose. You can vary the effect by adjusting the distance between your subject and the light source, or by placing a reflector on the 'dark' side to bounce some light back in.

A reflector isn't compulsory, but is often used to reduce contrast on the darker side of the subject.



The subtle triangle of light on the darker side of the face shows that Rembrandt lighting has been used.

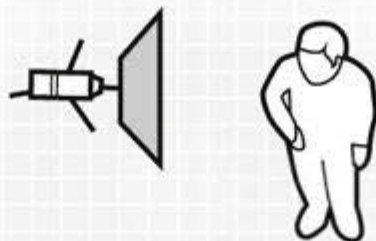


Split lighting

Split lighting divides the face in two; one half illuminated, the other in shadow. It's great for injecting drama into a portrait, and tends to be used for more brooding or masculine images.

Position your light source 90° to the right or the left of your subject, and at the same height as their head. This will fully illuminate the side closest to the light, leaving the other under a blanket of shadow.

To be really precise, you'll want the eye on the shadow side to catch a little bit of the light, so check the results and ask your subject to turn their head bit by bit until a catchlight appears in the 'dark' eye.



With split lighting, angling the face until you see a catchlight in the 'dark' eye produces the best results.



Butterfly lighting

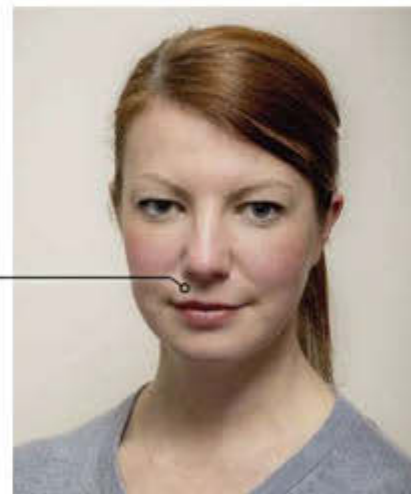
This effect is named after the tiny shadow cast under the subject's nose, as it roughly resembles the silhouette of a butterfly. The lighting is generally quite flattering, as it emphasises wrinkles and blemishes far less than lighting from one side. It's commonly used in glamour portraits. Butterfly lighting also helps to enhance cheekbone structure by providing some shadow below them.

To achieve this lighting, you'll need to position the light source high above and in front of your subject, essentially right behind your shooting position. If you find the shadows too harsh, place a reflector underneath your subject's face to bounce some light back up into the features.

The light needs to be positioned high enough to avoid the shadow of the photographer and camera - aim for about a 45° angle.



With Butterfly lighting, move the model or the light to ensure the nose shadow stays compact and doesn't stray onto the top lip.





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PERFECT TIMING

Eugene waited in a precarious position for a wave to hit the prow, sending spray back toward his lens. This ensured the image would be filled with a sense of movement and dynamism. He had to use a fast shutter speed to avoid camera shake, but had he shot a split second sooner or later, the result wouldn't have been so spectacular.

UNUSUAL ANGLE

Most photographers would have taken this image from the deck, but Eugene has found an interesting angle that makes it look as if the shot was taken from a neighbouring vessel. In fact, he was hanging off the side of the yacht, holding onto a rope to support himself and watching his camera's Live View.

NAUTICAL BUT NICE!



Discover what makes Eugene Schultz's dynamic couple shot so exciting

WORDS BY ANDY HEATHER

FAST SHUTTER SPEED

Eugene selected a shutter speed of 1/800sec to create a series of circular water droplets. A slower shutter speed would have produced streaks, but the round orbs frame the couple and add to the romance of the scene. Eugene was shooting with one hand, so he had to set up his camera in advance. He also prevented silhouetting by placing a flashgun on the left, opposite the sun, to fill in the shadows.

WIDE FIELD OF VIEW

Although the romantic couple is the main focus, this is not a traditional portrait shot. Those are often taken with a 50-135mm focal length. Instead, Eugene chose to shoot with a wide-angle lens using a 16mm focal length (that's about 11mm on an APS-C camera), which incorporates more of the spectacular ocean setting.

Want to get a shot like this? Here's the info you need

Eugene used a 16-28mm f/2.8 lens on his Nikon D800 to take this shot, but anyone can shoot romantic nautical images with some basic kit.

FIND A SAFE PLACE TO SHOOT FROM

If you're planning to lean out over the edge of a boat, be sure that you're roped in and are wearing a life jacket. Also, make sure your camera is attached to your body by a secure strap in case it slips from your grasp. Always check what's covered by your insurance policy before putting your gear in harm's way.

USE A WIDE FOCAL LENGTH AND ACTIVATE LIVE VIEW TO COMPOSE

To emulate Eugene's shot, use a focal length of 16mm on a full-frame camera (11mm on an APS-C camera). If you don't have a lens that goes that wide, use the widest end of your kit lens. Turn on your camera's Live View so you can compose your image from arm's length. Try to place your subject around a third of the way from either edge of the frame and a third of the way from the top of the frame. Include plenty of the beautiful vista in the shot.

SET UP YOUR CAMERA AND WAIT FOR A WAVE TO PRODUCE SOME SPRAY

Set your camera to Manual mode (M on the mode dial) and dial in a shutter speed of 1/800sec to freeze the movement of the water droplets. Set the drive mode to burst. Set your aperture to f/8 and adjust your ISO until your camera's light meter shows you have a balanced exposure. Place the active focus point on the couple and half-press the shutter button to focus. Wait for some spray and then fully depress the shutter button to shoot a burst.

PROCESSING SOFT

There's a variety of different software options available for processing your images.

WORDS BY BEN DAVIS

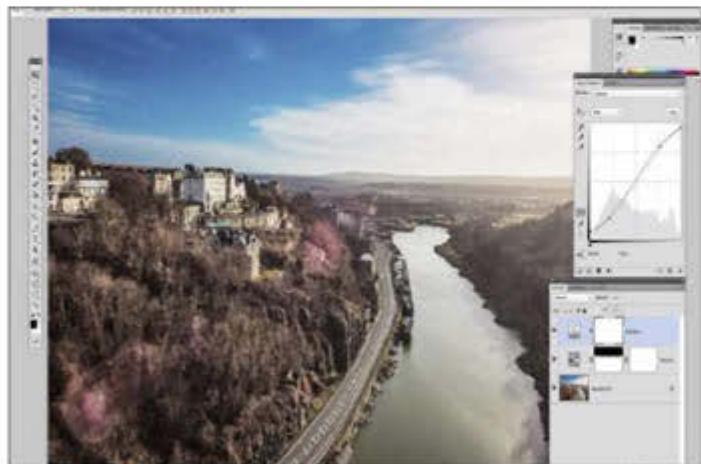


Image-editing

WHAT IS IT?

Image-editing software is the first port of call for most photographers when it comes to processing their pictures. It's a computer program that enables the user to modify and edit digital images, to either enhance detail in the picture or for more creative purposes. There's a wide variety of different software options available that all offer slightly different functionality. The most famous package is Adobe Photoshop. Dating back to 1988, it has become the *de facto* industry standard image editing software.

WHO IS IT FOR?

This type of software is used by the entire spectrum of digital photographers; within image-editing software there is something for everyone. The range of software options is split into two strands: those aimed at the professional and advanced enthusiast, or programs for beginners just starting to tinker with photo manipulation. Image-editing programs for professional purposes – like Photoshop CC – have a range of advanced features with lots of tools to create different effects. For those who don't require access to more complex features, Photoshop Elements is simpler to use and is also the more affordable option.

WHAT CAN IT DO?

Although there are a number of different options for image-editing software, many of the features are a universal constant among them. Even

the most basic programs offer the ability to improve, change or add to the contents of your photograph. You can adjust the exposure to change the brightness of the image, alter the colour balance and give the image a crop to improve the composition. More advanced editing work tends to involve the use of Layers, which allow multiple adjustments to be made to different parts of the image, or to blend parts of different images together. Overall, the possibilities are limitless.

WHAT ARE THE DOWNSIDES?

If you want access to the most advanced tools and features then you'll need to pay monthly to get Photoshop CC. The subscription is

Photoshop has a range of advanced features with lots of tools to create different effects

priced at £8.57 a month at creative.adobe.com/plans – but it comes bundled with Lightroom 5.

Photoshop Elements 13 has fewer features but is around £60 for a one-off purchase, and an image-editing package like GIMP (www.gimp.org) offers a good range of features and is free to use.



RAW workflow

WHAT IS IT?

RAW workflow software is designed specifically for the processing of RAW images. Photographs captured in RAW format contain much more colour depth than JPEGs. RAW files from most cameras are 12 or 16-bit, whereas JPEGs only offer 8-bit. This means that RAW files contain more tonal detail, allowing for greater exposure adjustments to be made. The leading RAW workflow software is Adobe Lightroom. It provides complete control for image organisation and RAW processing, with a multitude of publishing options to create the final photo.

WHO IS IT FOR?

If you prefer to shoot in the RAW format, then you'll definitely need some RAW workflow software, as simpler image processing software isn't able to read the data contained within RAW files. Most professional photographers prefer to shoot RAW as it offers maximum control over the editing, so more tonal detail can be recovered and greater colour adjustments can be made. It's also for photographers who like to organise and edit their images all in the same place, without having to access their pictures through multiple applications.

WHAT CAN IT DO?

While there are a number of options for RAW workflow software, the most ubiquitous program is Lightroom. Lightroom is designed to handle your entire RAW workflow

process, from organising to batch editing to exporting. It lets you organise your images into different categories and also embed other bits of metadata within the file. The biggest attraction of working with RAW is the ability to make non-destructive adjustments to your images, meaning that you'll never lose the original, and can make limitless versions of your photos. Within the processing are features like tonal, colour and contrast adjustments, Noise reduction, localised adjustment brushes and graduated filters. Many photographers find Lightroom offers all the processing options they need.

WHAT ARE THE DOWNSIDES?

Working with RAW files doesn't allow for the use of Layers, so you can't create any composite images or blend different effects. You also need to Import your images to start work, and then Export them when you've finished to a more accessible file type like JPEG or TIFF, as in their native RAW format they can't be opened by most other programs.

Lightroom is designed to handle everything from organising & editing to exporting pics

WARE ALL YOU NEED TO KNOW

Discover the benefits and disadvantages of each with our easy-to-follow guide



Plug-in

WHAT IS IT?

A plug-in is a third-party computer program that integrates into another program increasing features and expanding functionality. They act like mini-editors and can't be used on their own – instead they have to be accessed from within a 'host' program. Most plug-ins are designed for use with Photoshop, and they provide additional imaging effects and perform tasks difficult or time-consuming to fulfil using Photoshop alone. Many different companies create plug-ins for image processing software, with each specialising in different effects such as mono conversions, special effects or HDR processing.

WHO IS IT FOR?

Plug-ins are for anyone who wants instant access to a preselected set of creative effects or processing commands. They're primarily designed to save the user time, as they allow you to click through a variety of results without having to make complex adjustments to the image yourself. There are different plug-ins designed for different disciplines, so they are used by most of the photographic community. Whatever type of photographic processing you're into, there's bound to be a plug-in for you.

WHAT CAN THEY DO?

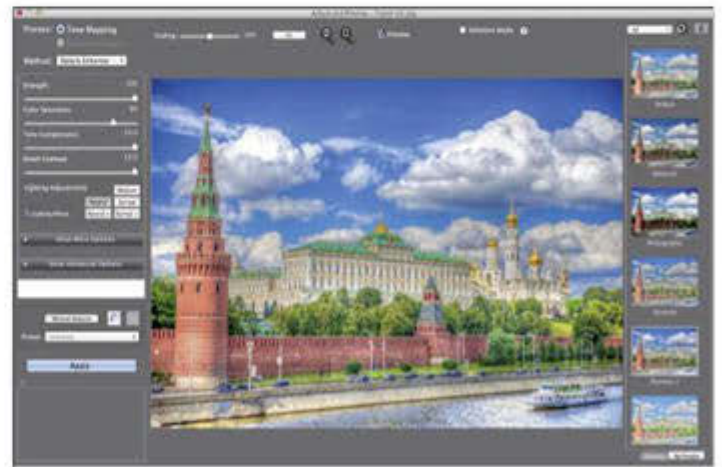
Different plug-ins are designed to perform all manner of tasks. One of the most popular plug-in packages is the Nik Collection from Google, and

it contains seven separate plug-ins to perform different functions within Photoshop. For example, the Silver Efex Pro plug-in is designed for black & white processing. It offers a range of creative tonal effects, accessed at the click of a button. It also allows you to emulate lots of different film types and add finishing effects. You can easily compare the different options, allowing you to make quick creative decisions. It also makes it easy to give all your images a uniform style, by applying the same effect to the images you process.

Plug-ins offer a range of creative processing effects accessed at the click of a button

THE DOWNSIDES?

To use a plug-in you need to have another piece of software – usually Photoshop. This means you need to pay separately for both that and the plug-in. While there are lots of free options out there, the most advanced plug-ins have to be purchased. The Nik Collection costs £95, and you can't buy any of the components for less, so you're committed to buying the entire package. The Topaz Photography Collection contains 16 plug-ins but costs \$469.99 – more than the cost of the host package.



HDR processing

WHAT IS IT?

HDR processing software is designed to create images with a greater dynamic range than traditional photography. It stands for High Dynamic Range, and means that there is a good amount of detail in both the highlights and the shadows. In a standard image, detail is often lost at the extremities of the tonal range as camera sensors, unlike our eyes, are only capable of recording a fairly narrow bandwidth of the light in a single exposure. To create an HDR image, you take multiple shots with different exposure values, and then use HDR software to merge all the source images together.

WHO IS IT FOR?

Anyone who loves the HDR effect. It can be a bit of a 'Marmite' technique, but there's no doubting its popularity; when you look at any online photography forum, there are countless fantastic examples of HDR in action. It's more likely to be used by landscape and building photographers, and especially urban explorers, as the subject needs to be motionless. This is why you'll never see a true HDR of sports or action pics. It also works better on those kinds of subjects too. The hyper-real gritty effect brings out a great level of detail, which wouldn't usually be flattering for portraits.

WHAT CAN IT DO?

The software will merge a stack of images, identical apart from the exposure, to create a single HDR file.

Usually three to five frames are enough, though sometimes seven or nine frames are used to combat very strong contrast in a scene. An HDR image can also be created from a single RAW file by outputting under and overexposed versions. Once the software has finished blending the images, you then try out different finishes, or adjust sliders to control contrast and colour, until you get the desired look.

WHAT ARE THE DOWNSIDES?

HDR software isn't designed for general imaging – it's a very specialist package and so is limited in its use. You need to decide before you take a shot that you want an HDR end result, so you can set up your camera's controls to automatically bracket the exposure and shoot an HDR sequence. It can be tricky when processing your HDR image to find a finish that you're happy with, as it's easy to 'overcook' the technique. This can leave images with unnatural haloes around edges and a glowing effect, which can overpower the subject of the picture.

To create an HDR image, you need to take multiple shots with different exposure values

CITY SLICKER



Markus Studtmann fuses architecture and Photoshop to create images that turn bricks and mortar into fine art

WORDS BY MATTY GRAHAM

THEY ARE THE STRUCTURES WE work, eat, live and sleep in. Buildings are all around us and reflect everything about us. Architects spend as much time, if not more, designing a building than engineers spend perfecting the lines of sports car, but when it comes to photography, these brick, steel and glass subjects are often overlooked.

Markus Studtmann is a photographer who is passionate about both fine art imagery and architecture. His mind-blowing photos of Berlin, Markus' hometown, have amassed over 750,000 views on image-sharing website *500px.com*, but his passions started long before the digital age. "When I was 14 years old I got my first SLR camera and quickly became fascinated by the possibilities of image creation," he explains. "I experimented early with different filters and lenses. Two years later I had my own little darkroom where I extended my experimental approaches to the post-processing of images."

Interests taken up during formative years often last a lifetime and it was while Markus

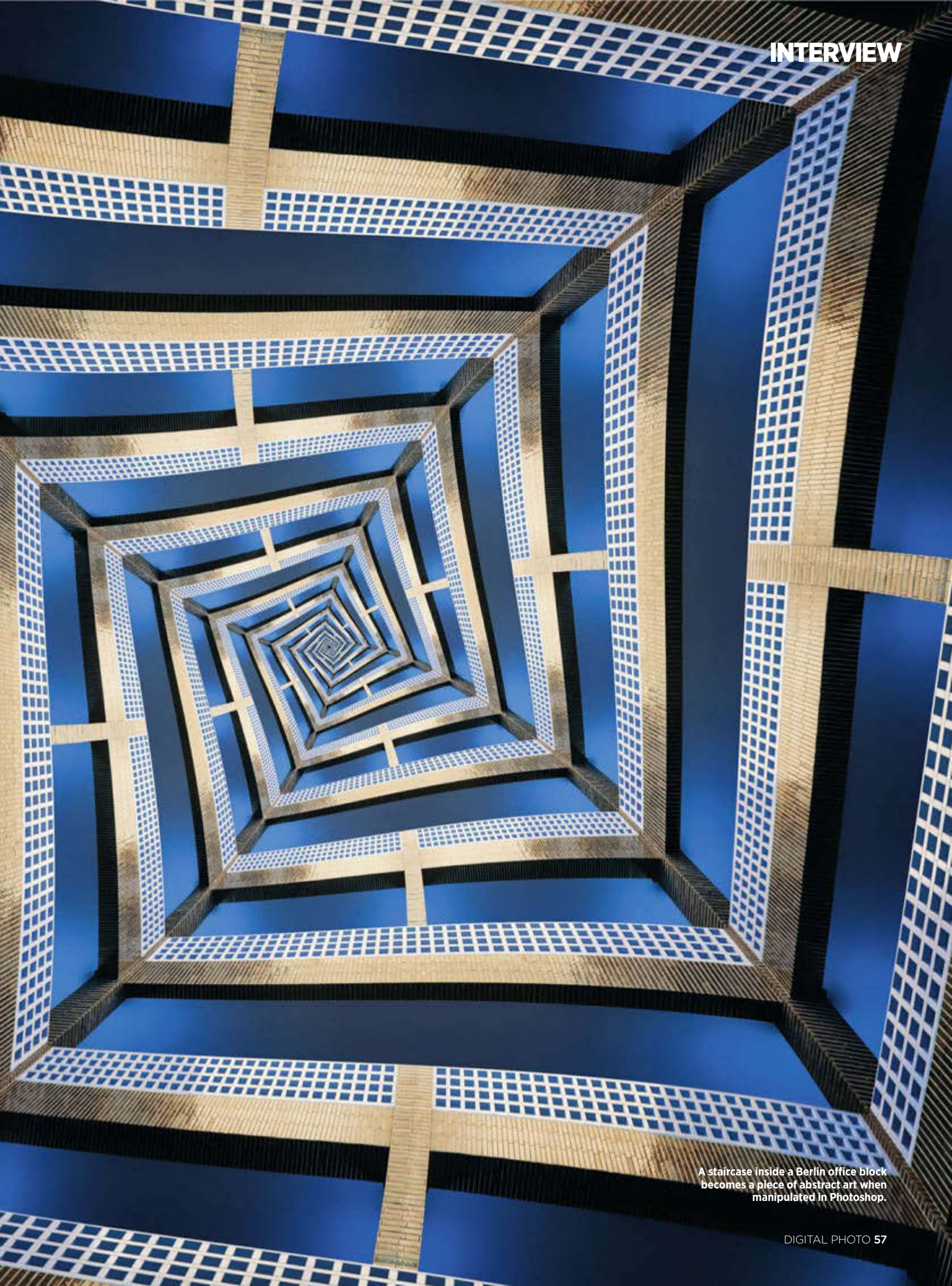
was still in school that the foundations for his architecture affection were laid. The talented student enjoyed drawing and designing buildings and his efforts resulted in an internship at an architecture bureau, but it wasn't until Markus moved to Greifswald – a small city that clings to the Baltic Sea on Germany's northern coast – that his interest in architecture peaked. "I was instantly fascinated by the contrast of abandoned and restored historical buildings and their subtle colour coordination. Whenever time allowed I photographed cityscapes and buildings," explains Markus. "What attracted me to this style of photography was the slow process of finding a good composition and new angles of view with very patient subjects and the geometric nature of the architecture. I always had a passion for geometry and buildings are all about geometry and about fitting in to an arbitrarily chosen image ratio."

While we've all seen architecture pictures before, Markus' work is different. Part fine-art image, part Photoshop manipulation, he has managed to create a signature style all of his own. "I try to simplify a building to its essential structures. I always ask myself: what is the basic pattern or structure of a specific building or a part of it?" says Markus. "I try to figure out what the architect must have had in his mind when he first imagined this building or how his first draft might have looked. The resulting images often stand out from others due to this higher degree of abstraction and simplification."

Who is Markus?

Along with his successful architectural imagery, Markus also sells fine art landscapes and abstract prints. His imagery will be exhibited in his native Berlin next month and more of Markus' pictures can be seen at www.paintingwithlight.de





A staircase inside a Berlin office block becomes a piece of abstract art when manipulated in Photoshop.



Markus used a mid-range aperture of f/11 to keep the whole staircase of this Berlin apartment block in focus.



On this near-symmetrical interior, Markus used the stairwell railing to draw the viewer into the centre of the frame.

This analytical approach is no great surprise for a man who has studied philosophy, psychology and neurobiology at university, so does this intellectual thinker notice more about his subject than the average Joe? “I think I see more things in buildings that other people miss, but solely because I look over buildings for an extended period and from different angles,” says Markus. “Sometimes this lets me appreciate the beauty of the design even more, and sometimes I get angry about the architect or the craftsmen when I see buildings that don’t suit surrounding structures.”

Spying the subject is half the battle, but

Quickfire questions

If you could photograph any building in the world, which one would it be?

The most interesting area in Berlin is the Potsdamer Platz. I’ve been there at least 50 times and always find something new. I would like to explore the buildings of Venice and Dubai. Both have a high density of interesting structures and buildings.

Where are your images published?

Along with 500px, my portfolio is published at www.paintingwithlight.de. My client base consists of lovers of fine art prints, often in limited editions.

How important is it to you to include people in your images?

Including people in architectural shots can distract from the architecture itself. That’s the

main reason why most of my architectural work is without people. On the other hand, it is easier to tell stories if people are included.

A lot of your images are taken within subway locations – what is it about this environment that interests you?

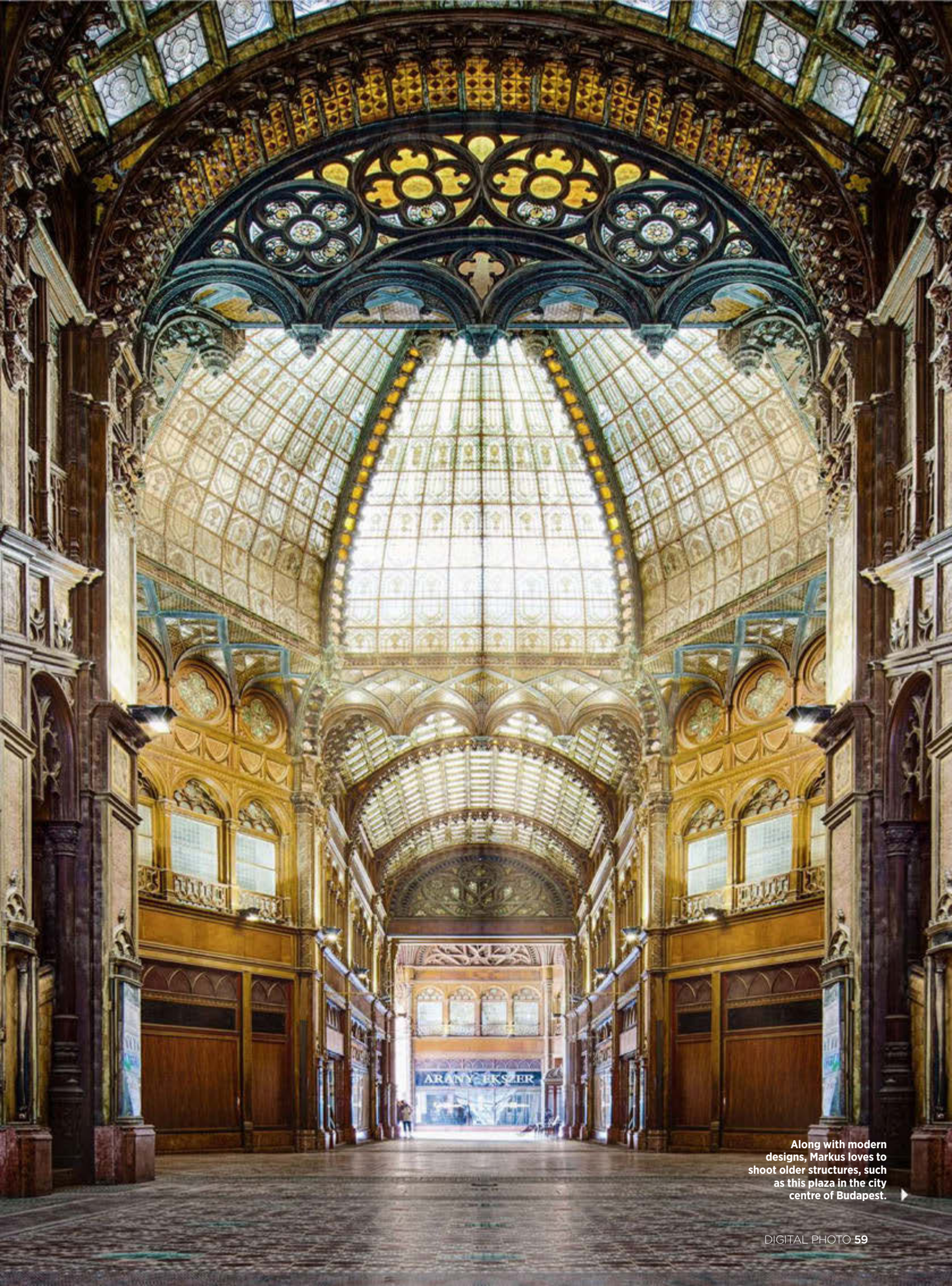
Subway stations are like very large, cave-like rooms with huge depth, a 3D feeling and often repeating patterns. I like the design of many modern stations.

Is architecture photography slow and pedestrian?

Certainly not! The lighting conditions change much faster than I would like them to, at least here in Berlin. A lot of my images are taken in the ‘blue’ hour. I often need to take 20 frames or more for one image, so I have to work fast.

when it comes to capturing and perfecting his images, Markus is equally as passionate about his technical approach. His ideal setup starts with the camera securely locked on a tripod. Markus shoots at his camera’s base ISO (100) and selects a mid-range aperture between f/8 and f/11 for the sharpest possible results. “I always try to capture the full dynamic range of a scene. Sometimes one exposure is sufficient, but more often than not I shoot multiple exposures,” explains Markus, who has always shot in RAW format. This decision has allowed him to revisit older

RAW files captured years ago as his post-processing skills have improved. Markus uses Lightroom to import his RAW files, rating them using the star system so he can shortlist and keep the best frames from a shoot. Typically there will be 20 ‘keepers’ from 1000 images. Once the wheat has been separated from the chaff, Markus will progress with the editing, using Lightroom’s White Balance, Highlights and Shadows sliders to make basic edits, before applying some custom presets developed by Markus. “I then export those images with basic



Along with modern designs, Markus loves to shoot older structures, such as this plaza in the city centre of Budapest.

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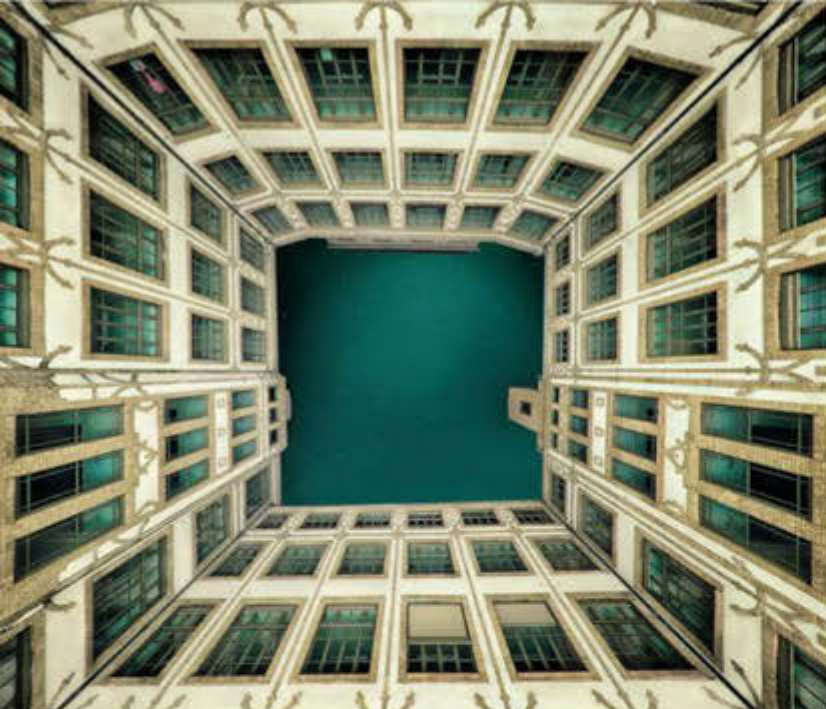
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INTERVIEW

Markus uses a range of Photoshop techniques, including mono conversions, exposure blends and the Transform tools to create his amazing images.



Markus has a trained eye that can spot shapes and lines that bring buildings to life.

adjustments as 16-bit TIFFs. All further processing is done with Photoshop and is different for each image," explains Markus. "Sometimes I only recompose or crop the image and do selective colour or Curves adjustments. When heavier processing is needed, this can result in images with more than 30 Layers and file sizes of 2GB." Markus' minimal processing time is around 10 minutes, although he typically makes adjustments for more than three hours with each image. "I usually split the processing time over many days, weeks or months. I have some images that I've processed for five years! It can take this long for me to be satisfied with them."

Markus is equally skilled in capture and editing, but it's his ability to spot a subject and composition that's the key to his fine-art treatments. Rather than stick to modern, shiny buildings, Markus broadens his radar to

include older structures, too. "I prefer both ends of the spectrum. Modern buildings often have very clean surfaces and interesting structures or patterns, whereas abandoned buildings always have interesting textures and mixed colours." Although he enjoys exploring dilapidated places, Markus isn't an

I have some images I've processed for five years! It can take this long for me to be satisfied with them

urban explorer and sticks to the law. "I'm not an adrenaline junkie and try to visit older buildings with the permission of the owners. I don't usually do it alone for safety reasons. It is still a lot of fun to explore derelict buildings and find interesting rooms or things in them."

INTERVIEW

I can wander around with my camera for a long time without losing interest.”

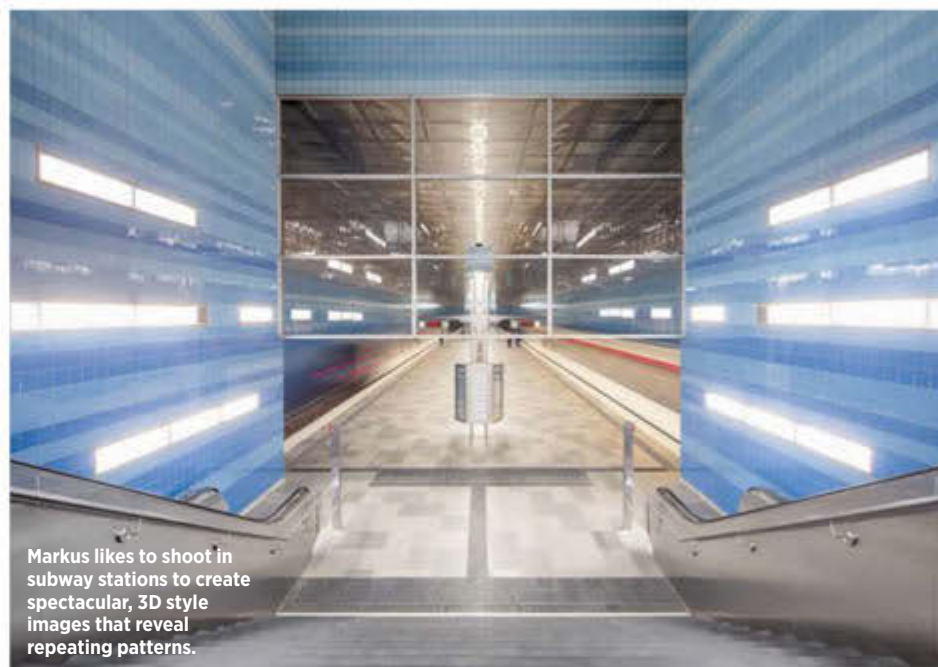
Another constant challenge of architectural photographers is the ‘jobsworth’ security guard. UK photographers will be familiar with the aggressive nature of this beast – rushing out of the building to tell you that tripods aren’t allowed and that you ‘have to move on’. Luckily for Markus, the security guards of Berlin are far more laid back. “I can’t remember a single unpleasant encounter with security guards,” confesses Markus, and he always has a tripod with him. The other essential item every architecture

Unwanted shadows and reflections and people visible in the frame are a major obstacles and can ruin images

photographer should carry is a two-axis bubble level to keep the horizon straight.

Although many believe architecture photography is the preserve of pros toting full-frame D-SLRs paired with tilt-shift optics, Markus insists that great images can be captured with any kit. “A lot of my more recent images are taken with a Ricoh GR – a compact camera. More professional gear helps of course, especially in situations where ultra wide angle lenses are necessary,” he explains.

Finding the best composition and light are Markus’ greatest challenges. “Unwanted shadows and reflections are a major obstacle



Markus likes to shoot in subway stations to create spectacular, 3D style images that reveal repeating patterns.

and can ruin images,” he explains. “I’ve had bad luck with buildings surrounded by scaffolding, and people in front of buildings are also not welcome. The best work-around is to visit these places when less people are around. When this isn’t possible, long exposures of two or three minutes will remove people from the frame – they simply blur out of view.”

Markus’ practical experience is vast and he’s keen to share his techniques with those wishing to follow in his footsteps. Composition is at the core of this. Markus likes to use the Rule of Thirds for panoramic

formats, but less so for square formats, which is the style most of his pictures fall into.

“Two principles are really important for me. First of all – symmetry. When I see a chance to add more symmetry to a building, during composition or with post-processing, I always take it,” he says. “Secondly, and slightly less important is I like to have lines that run into the corners to lead in the viewer’s eye.”

Markus is about to showcase his work at an exhibition in Berlin, meaning that along with his huge band of online followers, fresh sets of eyes will be able to view his unique style of architecture photography.

The gear Markus uses to create his extraordinary images



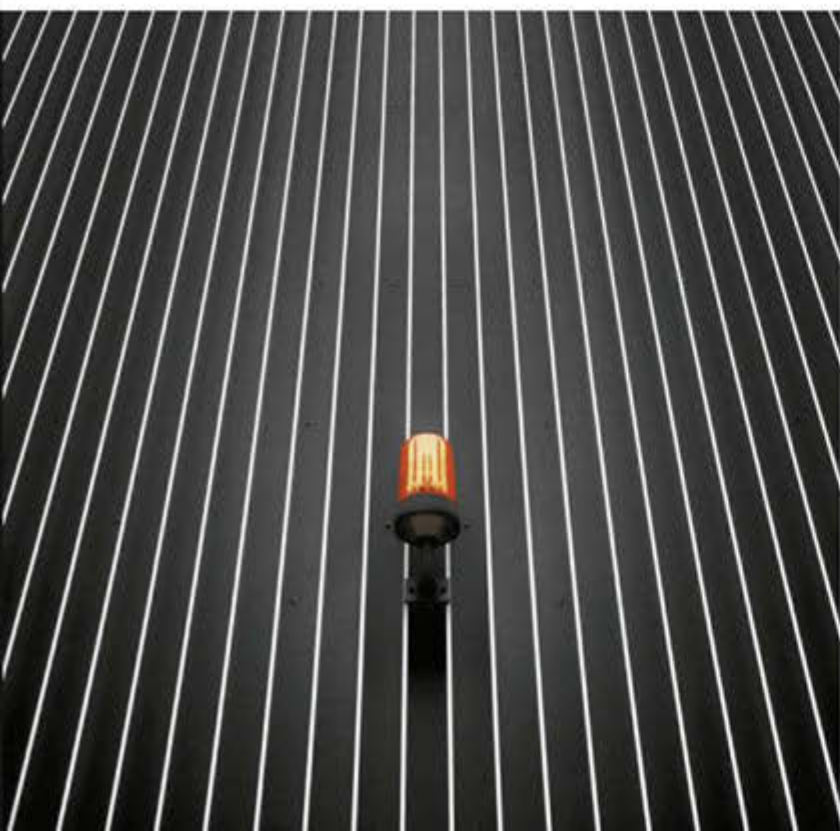
Markus relies on two different kit setups. One for speed and convenience and the other for precise, high-quality images.

When he wants to travel light, Markus will grab his Ricoh GR – a 16.2-Mp APS-C sensor compact camera with a fixed 18mm f/2.8 lens. However, for more involved shoots, Markus will pack his full-frame Canon EOS 6D, which he pairs with a 17mm tilt-shift lens. This specialist lens corrects distortion so that the lines of a skyscraper will be perfectly straight and won’t converge towards the top of the frame. Markus’ other items of kit are a sturdy Manfrotto tripod, a remote release to fire the camera and his tried and trusted bubble level, which helps him keep his horizons level – thus saving time in post-production.



Above: Markus used a specialist 17mm tilt-shift lens that allows him to adjust composition, straightening any converging lines in camera when shooting the Meininger Hotel in Berlin.

Below: When his tilt-shift lens doesn't offer enough scope, Markus uses Photoshop's Transform command to straighten elements, such as this stairwell in a Berlin office complex.



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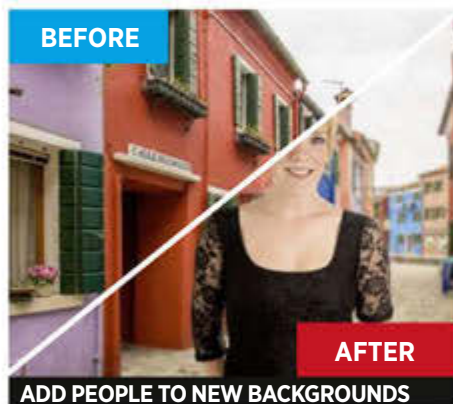
TURN CITIES INTO MINIATURES

Create a digital tilt-shift effect [p72](#)



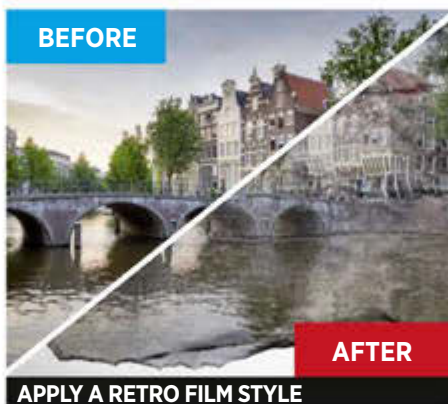
MAKE A SURREAL PORTRAIT

Give lone trees a personal profile [p78](#)



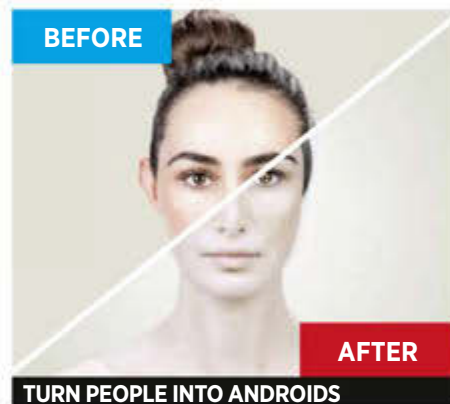
ADD PEOPLE TO NEW BACKGROUNDS

Place subjects in new places [p82](#)



APPLY A RETRO FILM STYLE

Make a Polaroid emulsion lift [p86](#)



TURN PEOPLE INTO ANDROIDS

Create striking sci-fi style effects [p88](#)



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TAKE PICTURES FURTHER

IT'S EASY TO THINK OF THE **PICTURES** you take as the end result of your photographic labours. But the techniques that follow will show you that your photos are just the first step of a bigger creative process. Image-editing software allows you improve the quality of your shots, but it also lets you use them as a starting point for something entirely new. Although the work is computer-based, reinventing shots in software is just as exciting as taking them, and the techniques in *Photoshop Genius* will arm you with the skills you need. With regard to software, Adobe Photoshop is the best-known example,

though there are different versions of it, and many other packages on the market from different software makers. A digital picture consists of a mosaic of tiny squares called pixels – a term derived from *picture elements*. An 18 megapixel image from a typical D-SLR will feature 18 million of them, and each one has its own colour and brightness value.

Getting a new look

By adjusting these values in software, you manipulate the picture, changing the way it appears. You can use a variety of methods to adjust the brightness and colour of the pixels you select, and you can even change the way

they look using processing effects called Filters. To build up an image, Layers are used. These allow different areas to be isolated and edited separately, and also let you bring different components into the mix like parts 'borrowed' from other pictures.

The Digital Photo method

In *Digital Photo*, the most authoritative guide to imaging, we break down great techniques into easy step-by-steps. Using Photoshop, Elements and Lightroom software, our inspiring projects are backed up by videos. Watch these, and you'll see our experts bring the project to life on your computer screen.

PHOTOSHOP ELEMENTS THE CORE FEATURES & FUNCTIONS

VIEW TOOLS

Zoom in and out and scroll around the picture to work on small or large areas.

SELECTION TOOLS

Select a specific area of a picture so it can be edited independently.

ENHANCE TOOLS

Make changes to the pixels within a picture or a part you've selected.

DRAW TOOLS

Paint, erase or add text to your image using these features.

MODIFY TOOLS

Crop or recompute to alter the size and shape of the entire picture.

COLOR TOOLS

Choose the foreground and background colours that the tools will use.

TOOL OPTIONS BAR

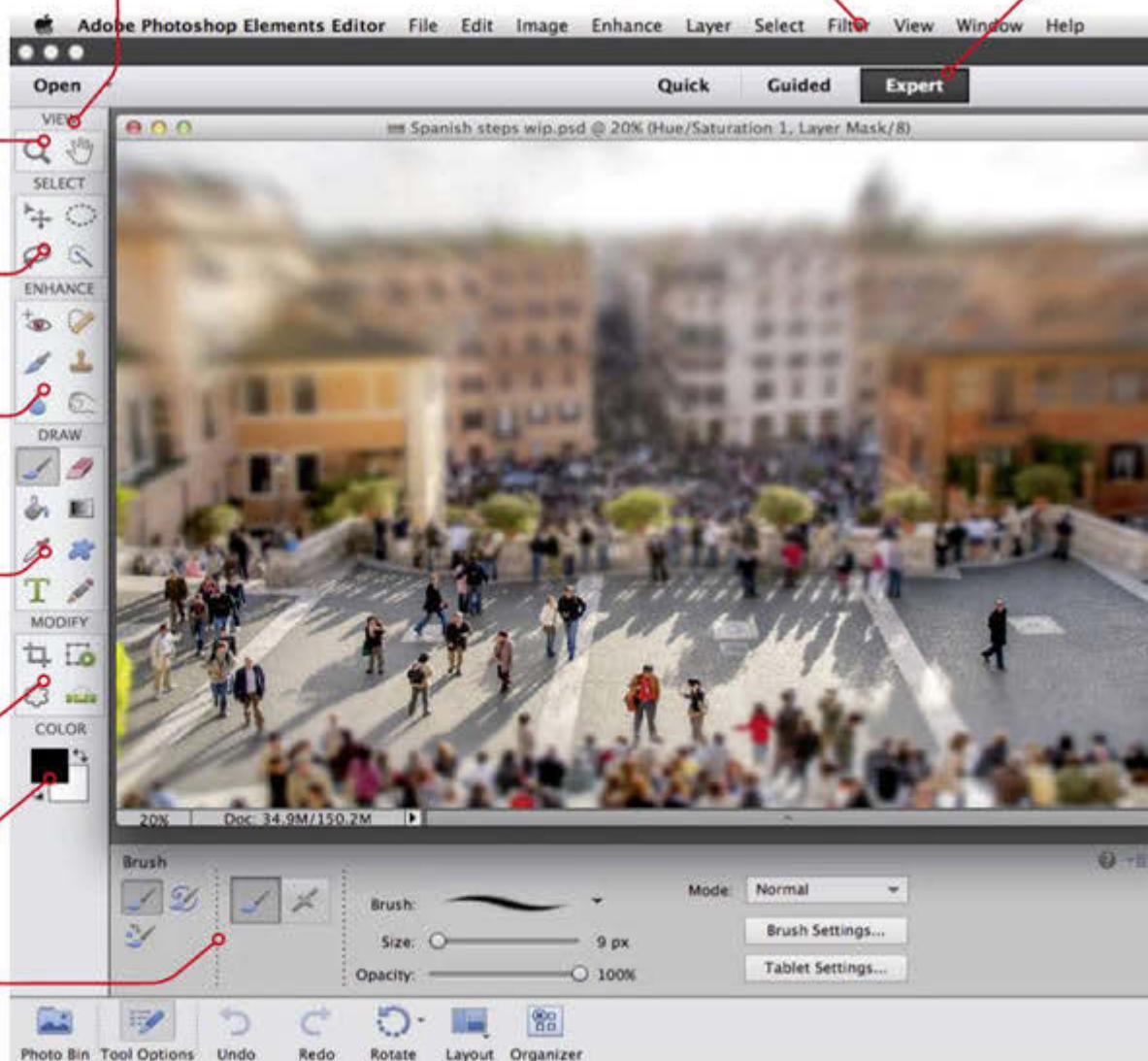
Set up the tool you've selected so it works in the way you want it to.

TOOLBOX

This palette contains all the tools used to make changes. Click on a tool to select it, and further options will appear in the Tool Options bar.

MENU BAR

Each item in the menu bar at the top gives access to a drop-down list of options. If our tutorials ask you to go to **File→Open** or **Window→Layers**, this is where you do it.



IN PHOTOSHOP

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1 Watch the video lesson

Load the disc, click on the video you want to watch, and our experts will walk you through.



2 Follow the steps

Open the start images into your software and follow the tutorial in the magazine.



3 Produce a pro image

Complete the project then use the technique you've learnt to enhance your own shots.



EXPERT MODE

Click on this to enter the most feature-rich display mode for all projects.

LAYERS PALETTE

One of the most important palettes for creative imaging work, this is a core feature of Elements and Photoshop.

CREATE A NEW LAYER

Click to make a blank Layer.

NEW ADJUSTMENT LAYER

Click to bring up a list of Adjustment Layer options, and choose the one you want.

TRASH

Get rid of unwanted Layers by dragging and dropping them on this icon.

LAYER OPACITY

A slider lets you fade a Layer between 0% (transparent) and 100% (fully opaque) to control how it appears.

BLENDING MODES

A drop-down list lets you select from a large number of choices to affect how the Layer interacts with the Layer below.

LAYER MASK

Hides or reveals part of the Layer to which it's attached.

LAYER NAME

Double-click here to give the Layer a new name.

LAYER THUMBAIL

A small scale image to help you identify the Layer's contents.

SHOW/HIDE LAYER

Switch Layers on and off so you can see their effect.

PANEL OPTIONS

Layers is the default, though you can display other options, or customise your workspace under the More icon.

Image editing software options



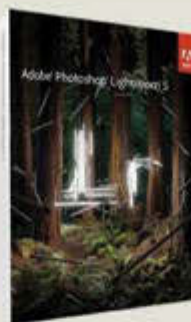
PHOTOSHOP ELEMENTS 13 £60

Photoshop Elements is the stripped down version of Photoshop targeted at enthusiasts. It offers the core features that photographers need and sports a similar interface to the professional Photoshop CC. Along with Layers, Layer Masks and a host of Selection tools, Elements offers a basic but effective version of Adobe Camera Raw for editing and enhancing RAW files.



PHOTOSHOP CC £8.57 MONTHLY

Photoshop CC (Creative Cloud) is the professional version of Photoshop. It's only available as a subscription, so you pay £8.57 monthly to use it. The deal includes Lightroom 5 so there's no need to buy this separately. As well as the tools in Elements, Photoshop offers Curves, the Pen tool, and Color Balance. It also features an advanced RAW converter, which shares the same RAW engine as Lightroom 5.



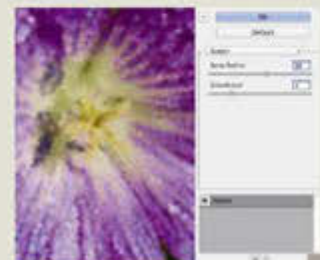
LIGHTROOM 5 £100

Photoshop Lightroom is a RAW workflow package offering a pro-level RAW converter and image management features for cataloguing your shots. It shares the same RAW conversion functions with Photoshop CC, but has a different interface. Lightroom doesn't feature Layers for creating shots with multiple images, but many photographers who don't want to subscribe to Photoshop CC find a combination of Lightroom and Elements meets their needs.

► For more info on the above packages, visit www.adobe.com/uk

Discovering Photoshop Filters

In the course of editing an image, it's common to use processing effects to distort the pixels, change their colour, or even blur them in the fashion of a defocused lens. Many of these changes are brought about through the use of Filters, and you'll find a list of them under the **Filter** menu in Photoshop and Elements, or within the **Filter Gallery**. Some Filters, like **Blur** or **Add Noise**, are easy to understand, as there's a big clue in the name! Others, like **Crystallize** or **Extrude**, are less clear on what effect they have, and it's only through experimentation that you start to develop a better understanding. When you have a spare hour, open an image and play with the Filters on offer. Don't worry about what they're called, just judge them on the effects they create, and note down any that appeal.



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TECHNIQUE & PICS BY JON ADAMS

SHOOT INTO THE LIGHT and you're guaranteed to inject drama into a scene. Contre-jour images, which literally mean 'against daylight', are infused with atmosphere and provide a romantic charm, thanks to the backlighting that occurs. With your light source in the right place and your camera angled in just the right position, you can even introduce lens flare into a shot, and get shafts of light streaking across the image and producing ghosted reflections of the internal lens elements. But getting this sought-after look requires a meticulous setup, and often a good deal of luck with the lighting conditions at your location.

To make this wonderful lighting style accessible to everyone, we've produced a great selection of genuine lens flare effects that can be applied to any image. Free with this issue, there are 25 brilliant effects, and they can be further customised in colour and shape to give you outstanding results.

It's a fabulous way of taking your pictures in a new direction, and thanks to our specially made files, it's really easy to do, too!

At a glance

YOU'LL LEARN How to add lens flare effects to give your pictures a creative twist

YOU'LL NEED Photoshop or Elements

TIME REQUIRED 10 minutes

DIFFICULTY LEVEL Easy

On the disc

VIDEO LESSONS Watch as Jon walks you through this exciting technique on your computer screen.

START IMAGES Twenty-five exclusive lens flare effects can be found in the Start Images folder, along with the *Flower.jpg* image.

BEFORE



The lens flare effects are all created in-camera using a variety of outdoor shots with real sunshine, and studio lighting setups. There are 25 different effects in the Start Images folder that will work on a broad variety of images. Apply them to your pictures to give them a brand new look and feel.



AFTER

Adding real lens flare with gives a stylised, summer look to your shots and creates an atmosphere that's difficult to capture in camera.

Photoshop Genius TAKE PICTURES FURTHER



1 Open your image & paste in the flare

Load Photoshop or Elements, then go to **File→Open** and navigate to the picture you want to add the lighting effects to.

Alternatively, use *Flower.jpg* from the Start Images folder for practice. When the pic is on screen, go to **File→Open** once more, and select the effect you want to use from the *Lens Flare FX* folder within the Start Images. *DP Lens Flare 07* was used in the example pic. Click **Open** and the effect will appear on screen. If you've used a portrait format pic, rotate the flare to suit by going to **Image→Image Rotation** and choosing **90° CW** or **90° CCW** depending on which way you want to turn it. In Elements, you can do the same under **Image→Rotate** and choosing **90° Left** or **90° Right**. To select it, hit **Ctrl+A**, and then to copy it, hit **Ctrl+C**. You can now close it down with **Ctrl+W**. Your original pic will be back on screen, so to get the flare effect into the same document, hit **Ctrl+V**. This will paste it in.



2 Resize the flare to match the size of your picture

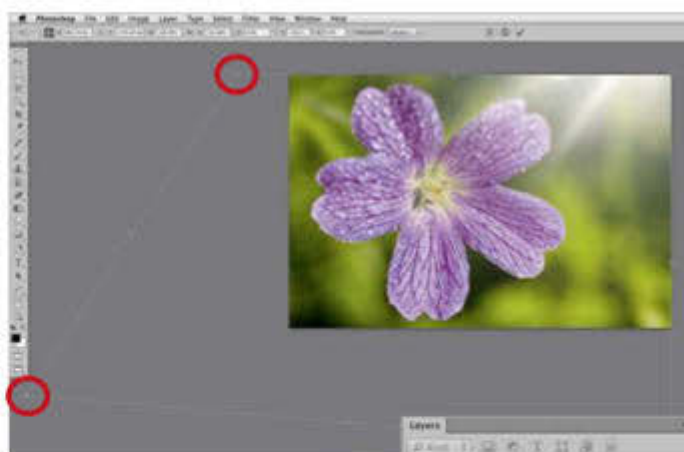
The lens flare effects are all sized to A4 at a resolution of 300 pixels per inch, but it's unlikely that they'll match the exact size of your picture. They may be too big or too small for your image, depending on the output size of your camera. To resize the flare to fit any size image, hit **Ctrl+T** to go into **Free Transform** mode. You can now pull the corner handles of the bounding box until they extend to the edges of the frame. It's not essential to keep the flare effect at the same aspect ratio, but if you want to, tick the **Constrain Proportions** box in the Elements Tool Options bar before resizing. In Photoshop, just hold down the **Shift** key to do the same. Once you've filled the frame with the flare it'll cover the entire image, and you just need to hit **Return** to confirm the changes.



3 Blend the flare with the picture

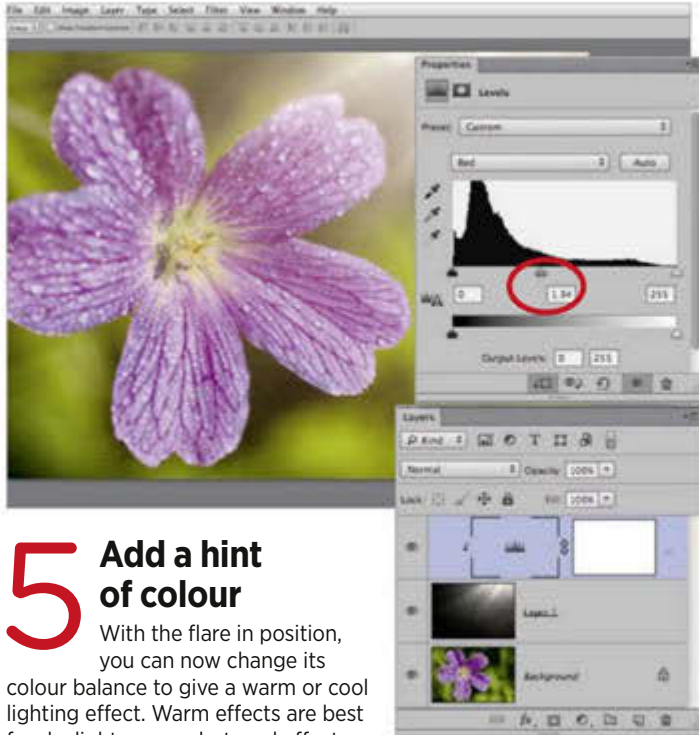
Now comes the magic bit!

Open your Layers palette (if it's not already on screen, go to **Window→Layers**), and you'll see the picture and the flare effect as separate Layers in the stack. The top Layer will be highlighted, so click where it says **Normal** and select the **Screen** Blending Mode from the drop-down list. This maintains the brighter pixels but makes the darker areas see-through, so the flare effect will show through on the image itself.



4 Adjust the shape of the flare

Because it's on a separate Layer, you can manipulate the flare effect to get the exact look you're after. This is done using **Free Transform**, so hit **Ctrl+T** to bring up the bounding box. You'll now need some room around the canvas, so hit **Ctrl+Minus** a few times to zoom back. To enlarge the flare, drag a corner handle outwards, and to distort it and alter the shape, hold **Ctrl** while doing this. To rotate it, hold the cursor outside the bounding box, and drag when you see a double-headed arrow. However you change it, just make sure that the flare picture's background covers the whole frame. Failing to do this will leave an obvious edge on the image. When you've got the flare as you want it, hit **Return** to set down the changes.



5 Add a hint of colour

With the flare in position, you can now change its colour balance to give a warm or cool lighting effect. Warm effects are best for daylight scenes, but cool effects look great on pics taken at night. To adjust the colour, make sure the flare Layer is selected, then click on the **Adjustment Layer** icon and choose **Levels** from the list. A new Adjustment Layer will appear, but before making any changes, hold **Alt** and click on the line separating this Layer and the one beneath. The Adjustment Layer thumbnail will jump to the right, indicating that it's clipped. In the Levels palette, click on **RGB** and select **Red** from the list. Now move the middle slider to the left to add warmth, or to the right to add a cool tone.



6 Increase contrast selectively using a Layer Mask

Lens flare reduces contrast, and the absence of dark shadows is part of its appeal. But if you find the overall effect is making your subject or scene look too washed out, then you can subtly reduce the impact by increasing the contrast selectively. To do this, click on the Flare Layer and then click the **Add Layer Mask** icon. Hit **D** then **X** to set black as the foreground colour, and then select the **Brush tool**. In the Tool Options bar reduce the **Opacity** to a low value of **10%**. Use a large soft-edged brush, and play it over the areas of the frame where you want a little more contrast.

Expert advice Stacking different lens flare effects together for creative effects

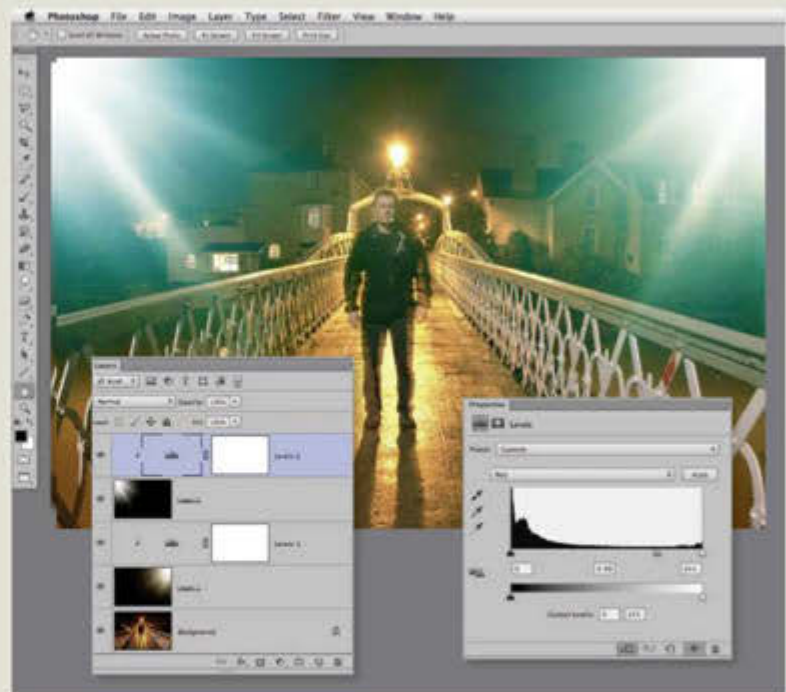
Although a single lens flare effect gives a good, realistic look for many pictures, you may want to apply several effects at the same time when constructing more creative images. Low-light scenes, vehicle shots and more adventurous portraits can all benefit from multiple flare effects, and it's easy to do using the files in our free kit.

Follow the steps above to make a single flare image, and when you've completed it, go to **File→Open** and load another flare picture from the folder. When it's on screen, hit **Ctrl+A**, **Ctrl+C** and **Ctrl+W**, to select, copy and close it, and then hit **Ctrl+V** to paste it into the main image.

Change the Blending mode to **Screen** so you can see the new flare interacting with the image immediately, then hit **Ctrl+T** to enter Free Transform mode. Now resize and reshape it using the handles around the bounding box, and drag it into position. Stacking flare effects on top of each other will give variations to the effects from a single light source, but if you want to flip it to give the effect of another light source from the other side of the picture, you can drag the handles at the side across each other to laterally reverse the image.

When the flares are in the right place for your image, hit **Return** to set down the changes. You can then add a clipped Levels Adjustment Layer and warm up or cool down the flares as described in Step 5.

Using this same technique repeatedly, you can add as many flares to an image as you want, and build up unique and colourful lighting effects that would be impossible to achieve in-camera.



By adding two lens flares to this low-light image and cooling them down with Levels Adjustment Layers, a dramatic sci-fi feel is created.

TRANSFORM CITIES INTO MINIATURES!



Create a tilt-shift lens effect to make a vast cityscape look like a small scale model

TECHNIQUE & PICS BY JON ADAMS

LOOK DOWN ON A BUSY PLACE from a high vantage point, and with the right frame of mind, it's easy to imagine that you're looking at a model rather than reality.

Take a shot though, and you can never convey the sense of a miniaturised scale because the zone of sharpness in the image doesn't look sufficiently shallow. The extremely limited depth-of-field used by macro lenses can only be created when you're very close to a small subject, but special – and very expensive – tilt-shift lenses allow you to control the depth and angle of a very narrow band of sharpness. To emulate the intriguing effect they give, Photoshop CS6 and CC have a special Blur filter called Tilt-Shift, but even this doesn't give the precise control you need to miniaturise a scene effectively.

This great technique creates the 'toytown' look from scratch using simple tools and filters, and that means that Elements users can do it, too. Try it on the start image following the step-by-step, and then look through your files for high-angle shots that you can turn into model scenes.

At a glance

YOU'LL LEARN How to add a special blurring effect that makes real scenes look like miniatures

YOU'LL NEED Photoshop or Elements

TIME REQUIRED 10 minutes

DIFFICULTY LEVEL Easy



On the disc

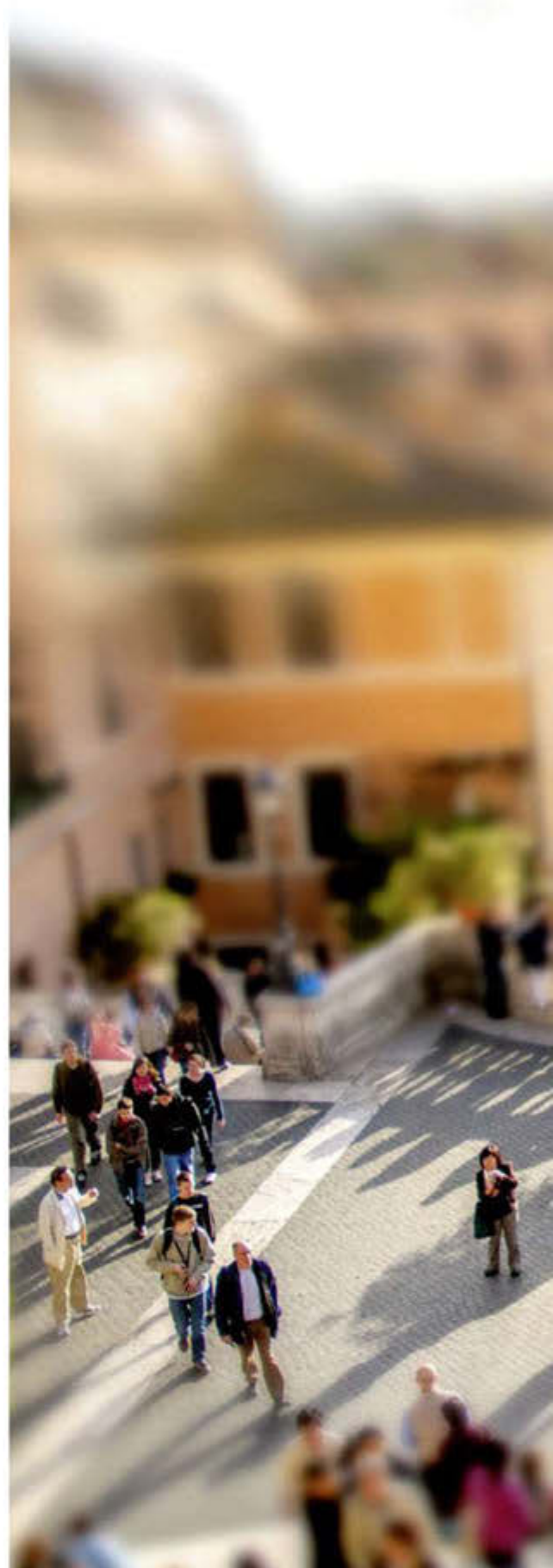
VIDEO LESSONS Watch as Jon walks you through this exciting technique on your computer screen.

START IMAGES The picture Jon used can be found in the Start Images folder. It's called *Spanish Steps.jpg*

BEFORE



Captured from the top of the famous Spanish Steps in Rome, the high vantage point overlooking the crowds of tourists is ideal for a miniaturising, tilt-shift effect.



AFTER

Selectively blurring sections of a city scene creates a tilt-shift effect that otherwise only an expensive lens can achieve.

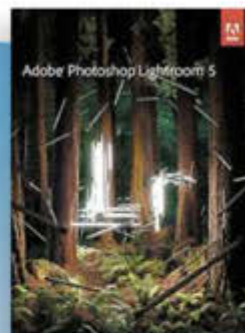




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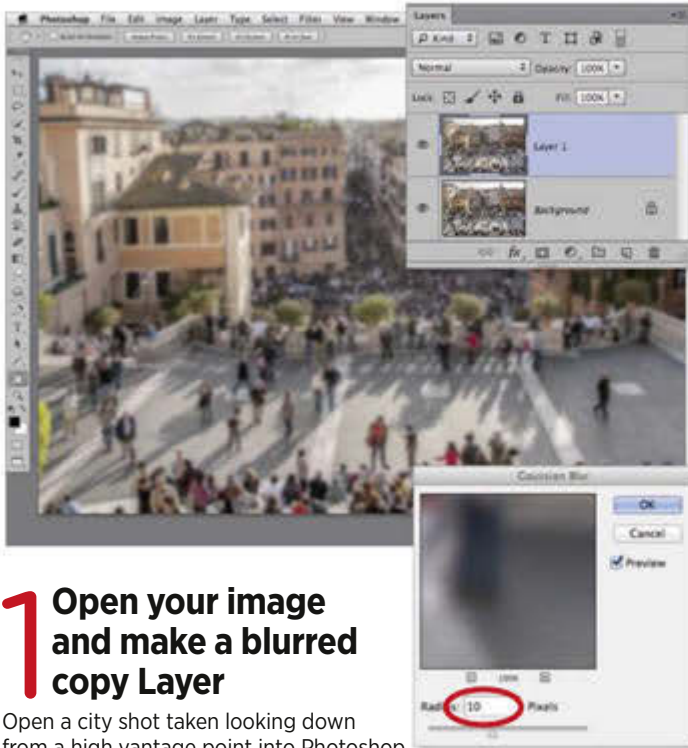
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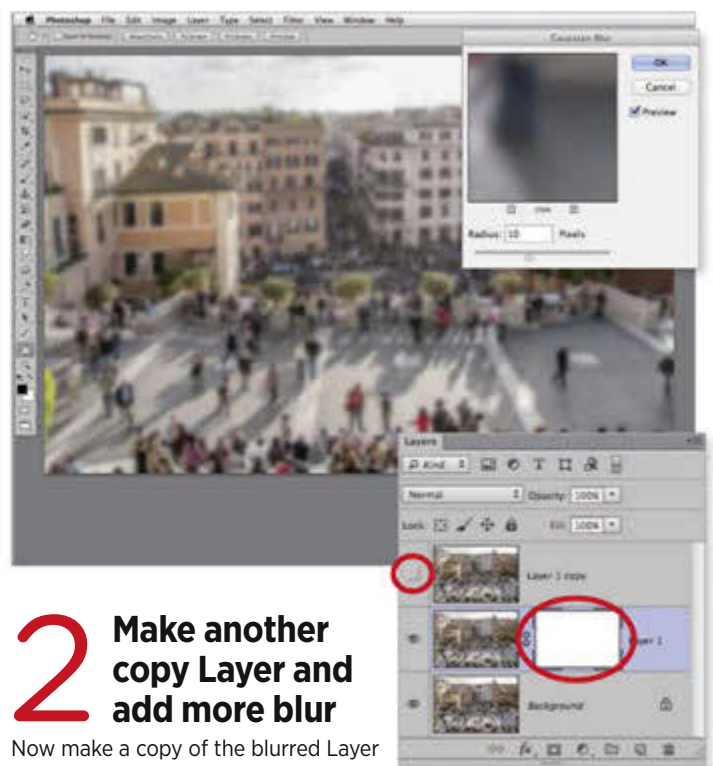
VOTING CLOSSES ON 30 JUNE 2015





1 Open your image and make a blurred copy Layer

Open a city shot taken looking down from a high vantage point into Photoshop or Elements, or use *Spanish Steps.jpg* from the Start Images folder. If your Layers palette is not already on screen, open it by going to **Window→Layers**. You'll see a single **Background** Layer in the palette, and the first task is to duplicate it. You can do this by dragging it to the **Create a new Layer** icon, but the quickest way is to hit the shortcut **Ctrl+J**. The copy Layer that's created at the top of the Layer stack will be active, so go to **Filter→Blur→Gaussian Blur** and enter a **Radius** of **10px**. Click **OK** to create a blurry looking image.



2 Make another copy Layer and add more blur

Now make a copy of the blurred Layer by hitting **Ctrl+J** again. To increase the amount of blur, go to **Filter→Blur→Gaussian Blur** once more, and blur it again by **10px**. This will give you a fairly fuzzy result, but the shapes and forms at the location will still be identifiable. In the Layers palette, switch off this top Layer by clicking on the 'eye' icon alongside it. Click on the middle Layer to highlight it and make it active, then click on the **Add Layer Mask** icon. You'll see a white rectangle appear alongside the active Layer. This is your Layer Mask.



3 Paint into the mask to reveal sharp people

Hit **D** to reset the colours then hit **X** to swap them over so black appears in the foreground colour swatch. Select the **Brush tool (B)** and in the Tool Options bar set the Brush **Opacity** to **40%**. Select a round, soft-edged brush around **300px** in size (you can adjust your brush size using the square brackets keys). Paint into the people in the middle of the scene. They'll become sharper with each successive stroke. Continue painting until you have a strip of sharp people across the middle of the scene.



4 Add a Layer Mask to the top Layer and paint to reveal what's beneath

Switch on the top Layer by clicking on the 'eye' icon alongside it, click on it to make it active, then add a Layer Mask to it. Use a black brush to paint out a broader strip across the middle of the frame. This will give the effect of feathering the blur outwards as you increase the distance from the lens. If you need to amend the mask on your middle Layer, click on the Layer Mask thumbnail in the Layers palette and paint away. If you see black appearing on the image, you've clicked on the Layer, rather than the Mask, so hit **Ctrl+Z** to undo, and have another go.

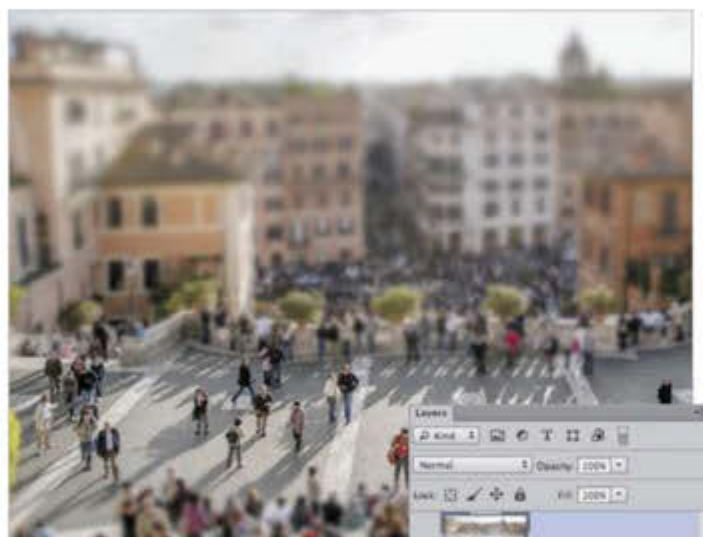


Capturing Colour: how to light a hair shoot by Christian Hough

Light is everything™

To find out how this image was lit
watch the video online at **Bowens.tv**

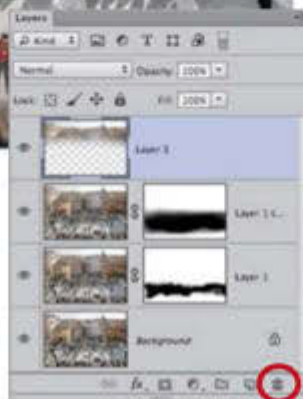
bowens



5 Add more blur in the distance

When you've completed the effect, you can add a more extreme blur to the distance. To do this, make sure the top Layer is highlighted, then hit **Ctrl+Alt+Shift+E** to merge all the Layers into a new one (*Layer 2*).

Select the **Lasso tool** and make a Selection around the part you want to blur at the top of the image. When it's surrounded by marching ants, click **Refine Edge** and move the **Feather** slider to **200px** to soften the edge. Click **OK**, then hit **Ctrl+J** to place it on a new Layer. Apply **20px** of **Gaussian Blur** to this. You can now delete the merged *Layer 2* by dragging it to the **Trash** icon in the Layers palette.



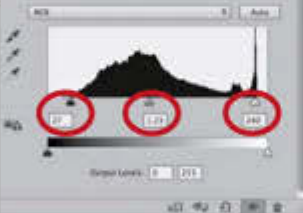
6 Apply a lens distortion effect with Radial Blur

Lens distortion can often be seen around the frame edges on tilt-shift lenses. To create some, leave the top Layer highlighted and go to **Filter→Blur→Radial Blur**. Select the **Zoom** and **Good** options and move the **Amount** slider to **18**. Leave the **Blur Center** preview as it is, then click **OK**. After the filter has processed, you'll see a subtle lens distortion effect towards the extreme edges of the frame.



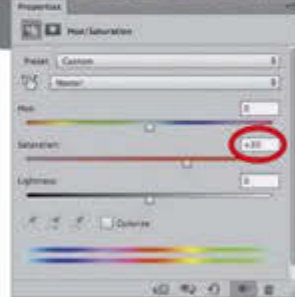
7 Increase contrast to give a miniature look

An increase in contrast is important to get a 'toytown' look with tilt-shift style images. To give the image a boost, click on the **Adjustment Layer** icon in the Layers palette and select **Levels** from the list. The Histogram graph will show the distribution of tones in the image, with black on the left and white on the right. To boost contrast, move the **Shadows** slider on the left inwards a little. Now do the same with the **Highlights** slider on the right, dragging it in a little towards the middle to increase the brighter tones. The **Midtones** slider can also be adjusted to brighten or darken the overall image. On the example pic, settings of **27, 1.23 and 240** were used for the sliders.



8 Boost the colours in the scene

Toys and models are often more brightly coloured than the real items they depict, so to finish off the look, click on the **Adjustment Layer** icon once more, but this time choose **Hue/Saturation** from the list. In the palette move the **Saturation** slider to the right to boost all the colours in the scene. A setting of **+30** was used on the example image. With your miniature effect complete, go to **Layer→Flatten image** to crunch all the Layers into a single **Background** Layer, then save it under a new name via **File→Save As**.



SCULPT LONE TREES INTO PORTRAITS



Branch out and discover new Photoshop skills by reshaping a tree into a surreal profile portrait of a friend

TECHNIQUE & PICS BY DAN MOLD

At a glance

YOU'LL LEARN How to combine two different images to create a dynamic portraits using Selections, Layers and Layer Masks

YOU'LL NEED Photoshop or Elements

TIME REQUIRED 15 minutes



On the disc

VIDEO LESSONS Watch as Dan runs through this fun technique using Photoshop Elements on your computer screen.

START IMAGES The shots Dan used can be found in the Start Images folder. They're called *Tree.psd* and *Side portrait.jpg*

HUMAN PERCEPTION MAKES OUR EYES constantly seek out the shapes and features of people and faces in everyday objects. Whether you see a 'happy' parking meter, a 'smiling' car or a cloud that shares the characteristics of someone you know, it's impossible to escape the games our minds play in constructing faces from unlikely sources.

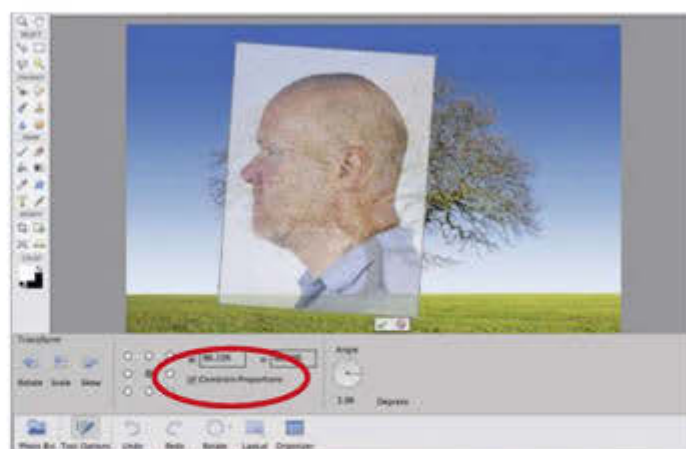
This creative Photoshop technique plays on this concept, and uses some great imaging techniques to transfer the profile of a face to the branches and twigs of a tree. By the end of the tutorial you'll have conquered Selections, Layers and Layer Masks, and amassed some useful skills that can be applied to many different editing tasks.

Once you've followed the step-by-step and have a firm grasp of the techniques used, you'll really benefit by personalising the image. Swap out the supplied profile picture for headshots of friends, family or yourself, and you can sculpt some superbly inventive pictures.

BEFORE



This portrait was shot in a studio, but it's easy to do at home. Find a plain, white wall to position your model against and ask them to stand side-on to you. Dial in +1 stop of Exposure Compensation to keep the background white, and shoot!



1 Open the tree pic & paste in a portrait

In Photoshop or Elements open the *Tree.psd* start image. Now go back up to **File→Open** and navigate your way to a profile head shot you'd like to turn into a tree, or alternatively open up *Side portrait.jpg* from the Start Images folder. Hit **Ctrl+A** to select the portrait, **Ctrl+C** to copy it and **Ctrl+W** to close the shot. Now back on the tree pic, hit **Ctrl+V** to paste the portrait in. Head over to the Layers palette (**Window→Layers**) and set the **Opacity** slider to a value of 70%. Doing this will help you see the tree on the Layer below so it's easier to resize and position the portrait in the next step.

2 Resize the portrait with Transform

It's now time to resize the portrait by hitting **Ctrl+T**. This will take you into **Free Transform mode**. If you're using Elements make sure the **Constrain Proportions** box is ticked in the Tool Options bar, but in the full version of Photoshop you'll need to hold down the **Shift** key as you resize. Pulling the corner handles will change the size of the portrait and you can reposition it by dragging it. You can also rotate the pic by hovering your cursor outside the bounding box and dragging when you see the double-ended arrows. The positioning doesn't need to be absolutely precise at this point as you can fine-tune it later on. Hit **Return** to set down the changes.

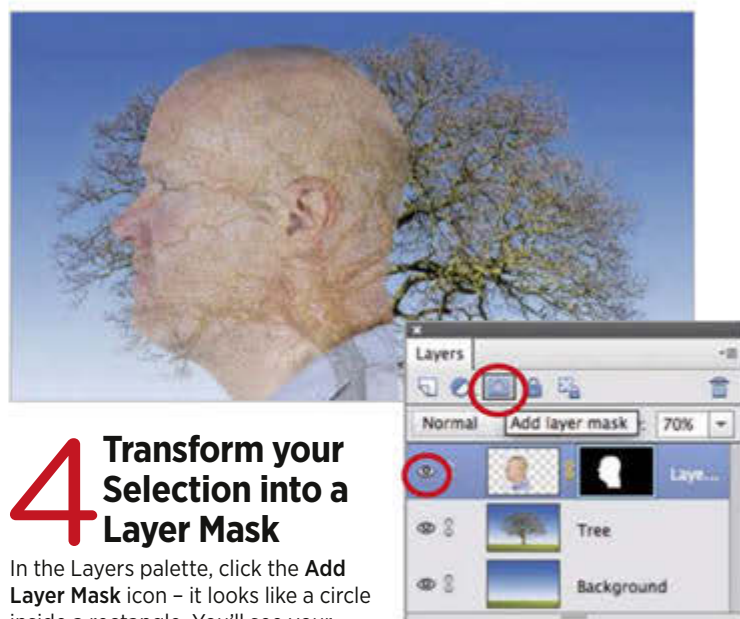
AFTER

The portrait's outline has been transferred to the tree, giving a surreal look and creating a face from the branches.



3 Select the profile pic with the Polygonal Lasso tool

In the Toolbox select the **Polygonal Lasso tool** and click around the edge of the portrait to draw a Selection. Make sure you keep clicking around the contours of the face in small steps to get a detailed Selection. Avoid double-clicking or you will complete the selection early so make sure you take your time. When you've gone all the way around the face you'll be able to join up the Selection with the starting point. You'll see 'marching ants' surrounding the portrait.



4 Transform your Selection into a Layer Mask

In the Layers palette, click the **Add Layer Mask** icon – it looks like a circle inside a rectangle. You'll see your Selection disappear – this is because it's been converted into a Mask. The Layer Mask will appear alongside the portrait's Layer thumbnail. Any parts of the Mask that are black will reveal what's in the Layer beneath, while white parts of the Mask will show what's in the attached Layer. While you're in the Layers palette, click the 'eye' icon on the portrait Layer to hide it as you no longer need it to be visible.



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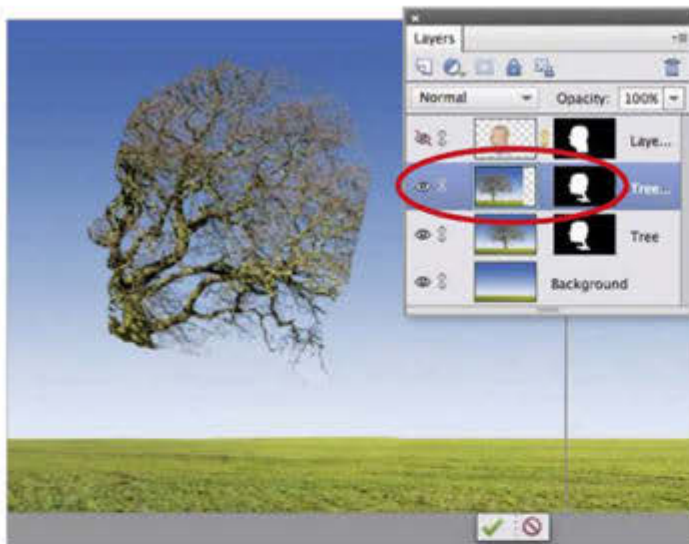
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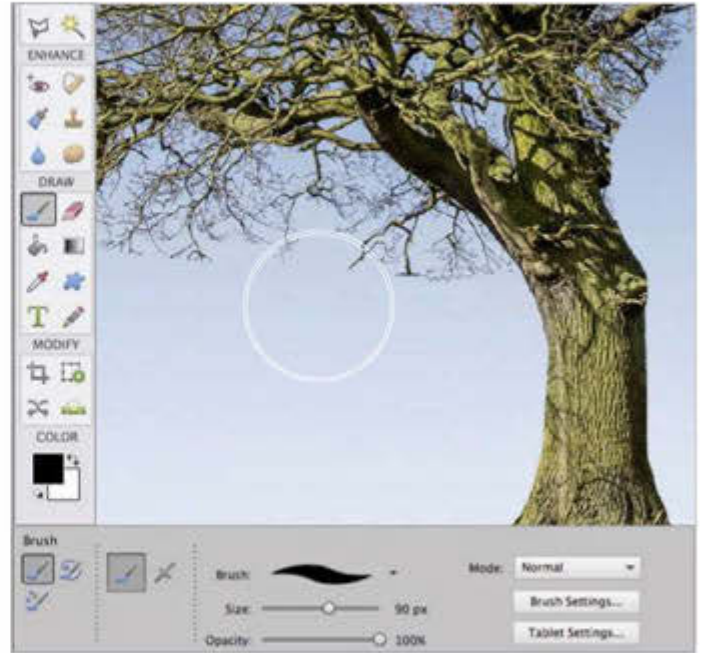
5 Duplicate the Layer Mask

Now hold down the **Alt** key and drag the Layer Mask from the portrait Layer onto the tree Layer. You'll see the tree turn into the shape of the portrait cut-out. Now click on the 'chain' icon on the tree Layer to unlink the Layer Mask from the image. With the Layer Mask active, hit **Ctrl+T** to put it into **Free Transform** mode. You can drag it to position the face shape where it looks best. If you need to turn the head so it's facing the opposite direction go to **Image→Rotate→Flip Layer Horizontal** in Elements or **Edit→Transform→Flip Horizontal** in Photoshop.



7 Create a new hair style!

Zoom out of the pic with **Ctrl+Minus**. To add some extra 'hair', hit **Ctrl+J** to duplicate the Layer. The Layer thumbnail of this duplicated Layer will be active so hit **Ctrl+T** to put it into **Free Transform** mode. Drag the image to the left until the top and back of the head looks natural, then hit **Return** to set it down. Click on the **Brush tool** then press **D** followed by **X** on the keyboard to set a black foreground colour. Paint to mask off all of this Layer apart from the hair. You can then hit **X** on the keyboard again to swap the foreground colour to white. Now paint in a new quiff! When you've resculpted the hair to your liking, right-click on this Layer and choose **Merge Down** from the list of options.



6 Tidy up the Mask with the Brush tool

Select the **Brush tool** from the Toolbox. It's time to resculpt the contours of the face in the tree, and you'll need to choose a brush with a hard edge and an **Opacity** of **100%** to do this. Set the **Size** to **100px** to start with – you can always resize it later by tapping the square brackets keys. Zoom in by pressing **Ctrl+Plus** a few times so you have a clearer view of the edges. Paint over any branches that look unnatural or that are cut off abruptly. Hold the **Spacebar** to temporarily bring up the **Hand tool** and drag your way around the whole tree, refining its shape as you go.



8 Use branches to define contours

The final step is to add a few extra branches to the outline of the portrait. Click on the **Polygonal Lasso tool** and find a branch that's a similar shape to one of the contours of the face. Select it by clicking all the way around it. When the marching ants surround it, hit **Ctrl+J** to place it on a new Layer and then **Ctrl+T** to go into **Free Transform** mode. Drag the branch into position – resizing and rotating it until the shape sits right. When you're happy with the position hit **Return** to set it in place. Right-click on this Layer and choose **Merge Down**, then repeat this process until the face is well defined. When you've completed the project, go to **Layer→Flatten Image** and then save the pic under a new name via **File→Save As**.

PLACE PEOPLE IN NEW LOCATIONS



A great way to change the look and feel of a shot is to transport your subject to an entirely new place! Here's how you can do it...

TECHNIQUE & PICS BY JON ADAMS

At a glance

YOU'LL LEARN How to make pro quality cut outs and add people to new backgrounds

YOU'LL NEED Photoshop or Elements

TIME REQUIRED 20 minutes

DIFFICULTY LEVEL Medium



On the disc

VIDEO LESSONS Watch as Jon walks you through this essential imaging technique on your computer screen.

START IMAGES The shots Jon used can be found in the Start Images folder. They're JPEGs called *Studio Portrait* & *Venice Street*.

CAPTURING A GOOD PORTRAIT of a subject often requires controlled conditions, so you can get the lighting just as you want it. But a clean, uncluttered studio background doesn't tell any story beyond the expression of the model. To add extra context to an image, you need to take it to a different place, and that requires some clever work with Selections. With a really good Selection of the subject, you can transport them to absolutely anywhere. In fact, the only limitation on where you can take them is the number of possible backgrounds lurking on your hard drive.

The most difficult thing about turning shots of people into good cut-outs is getting all the detail around the edge. Hard edges like those found around clothing and skin, are easy to select using manual Selection tools like the Polygonal Lasso. Because there's a defined edge to follow, you can simply zoom in tight and click along it. But when it comes to less distinct edges like fine strands of hair, the task becomes much harder. It's not possible to select each individual strand as it would take a disproportionate amount of time, so a better method is needed. Learning to use the advanced controls found in the Refine Edge command is what this tutorial's all about, and by mastering its subtleties, you'll gain a huge amount of confidence in tackling 'impossible' Selections.



The model was captured in a studio against a white background. We want to transport her to a colourful street in Venice, but the challenge lies in making an accurate Selection that takes in every strand of hair.



1 Open your new background and the person into Photoshop or Elements

Load Photoshop or Elements, then go to **File** → **Open** and find the location into which you'd like to place your model. For practice, use *Venice street.jpg* from the Start Images folder. Once it's on screen, open a portrait pic on a clean background, or use *Studio Portrait.jpg*. With the portrait on screen, hit **Ctrl+A** to select it, then **Ctrl+C** to copy it into memory. You can now close it down with **Ctrl+W**. You'll see your background again, and to get the portrait pic into the same document, go to **Edit** → **Paste** or hit the shortcut **Ctrl+V**.



2 Resize the portrait to suit

Open the Layers palette and you'll see the portrait floating above the background. The portrait is too big at present, so to scale it down, hit **Ctrl+T** to enter **Free Transform** mode. In Elements, check that **Constrain Proportions** is ticked in the Tool Options bar, and pull in one of the corner handles of the bounding box to scale down the subject. In Photoshop, hold **Shift** while you do this to keep the image in proportion. Once you've got it to the right size, hit **Return** to confirm the changes and see the resized pic at its full resolution. On the example image, the portrait was scaled to **50%** – you can see this amount in the Tool Options bar.



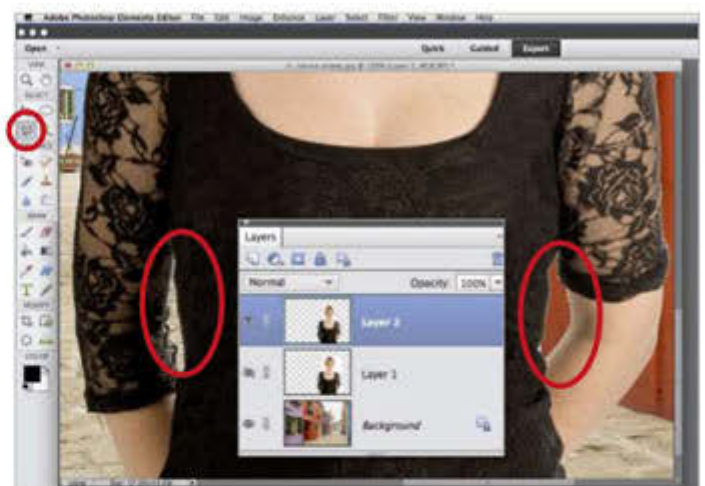
AFTER

With careful use of the **Refine Edge** command, the model has been placed in a new scene with every strand of hair visible.



3 Select the hard edges with the Polygonal Lasso tool

Zoom in tight on the edge of the portrait and select the **Polygonal Lasso tool** from the Toolbox. Staying right on the edge of the clothing and skin, click around the model's outline. Don't worry about the hair at this stage – just click all the way around the body and leave a loose Selection around the hair, making sure you take it all in. Once you've completed the hard-edged Selection and got back to your starting point, the model will be surrounded with marching ants. Hit **Ctrl+J** to place the selected area in a new Layer.



4 Select and delete unwanted areas

In the Layers palette, click on the 'eye' icon alongside the model's original Layer to switch it off. You should now see a good cut-out on the outline of the body, but areas under the arms and around the hair still need work. To remove the 'holes' under the arms, zoom in tight and use the **Polygonal Lasso tool** in the same way to select the hard edge. Once you've selected one side, hold the Spacebar and scroll across to the other. Now hold **Shift** to add to the Selection, and click around the part you want to remove. When you've selected it, hit **Backspace** to delete the areas.

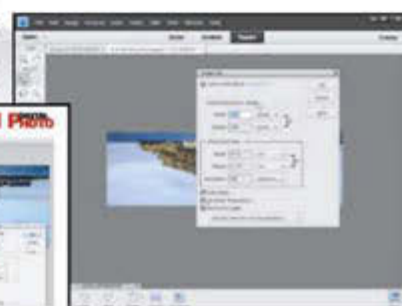


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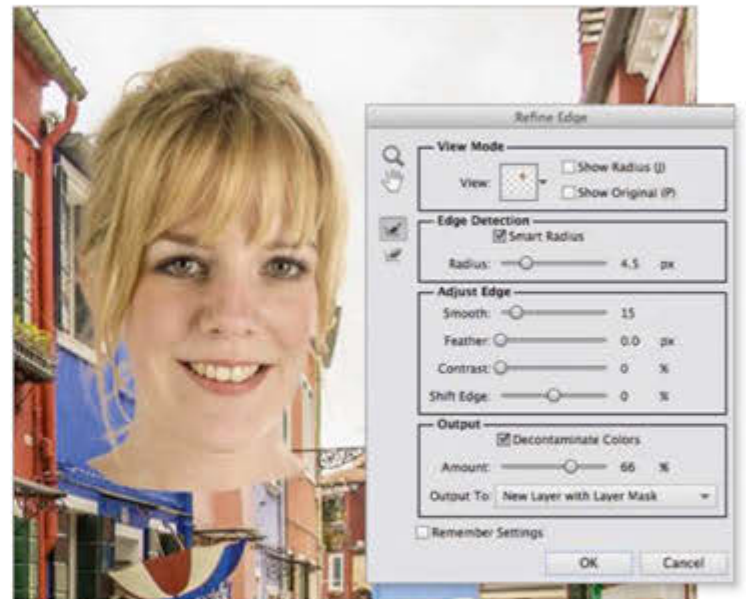
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5 Put the head in a separate Layer and set up the Refine Edge command

To select the hair, you first need to place the model's head in a separate Layer so you can work on it independently. With the **Lasso tool**, make a quick, rough Selection around the head and hair, then hit **Ctrl+J** to place it in a new Layer. Switch off the 'eye' icon on the Layer beneath, then select the **Quick Selection tool** from the Toolbox. Drag it over the face and hair to get most of the subject selected. Then click on the **Refine Edge** button in the Tool Options bar. Under **View** at the top, double click on the **On Layers** option so you can see the model on the actual background that's in place.



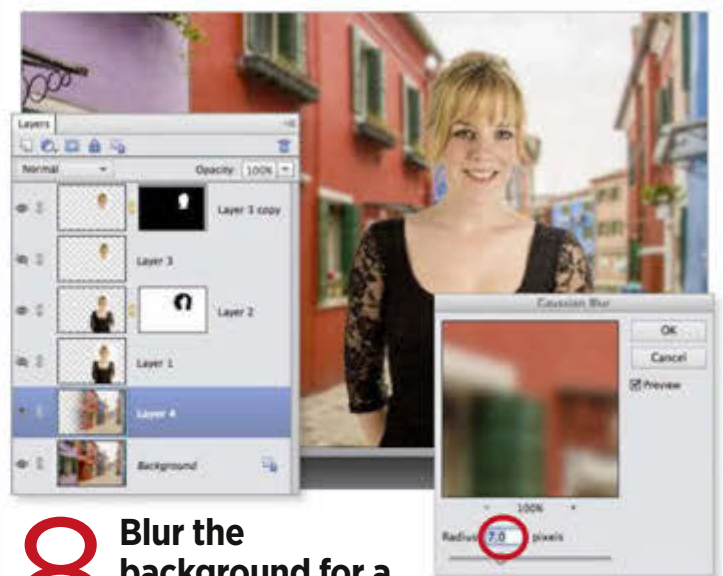
6 Refine the edge of the hair

Select the **Refine Radius tool** and paint around the edge to take in the individual strands of hair. When you release the mouse you'll see them. Paint over any white areas to remove these from the Selection and see the results previewed. Keep working around the edge until you have a good result. Try ticking the **Smart Radius** box and moving the **Radius** slider to see if it helps (it does on some Selections). When you have a reasonable finish, tick the **Decontaminate Colors** box and move the **Amount** slider to the right to get a better blend. You can also try adjusting the **Smooth** slider to get a more subtle edge effect. Click **OK** when you're finished and the refined Selection will be placed on a new Layer with a Mask attached.



7 Mask out the join

Click back on the Layer with the hard-edged Selection, switch the 'eye' icon back on, and click the **Add Layer Mask** icon to add a Mask. Hit **D** then **X** to set black as the foreground colour, then paint into the image to remove the white area around the hair and reveal the refined Selection. Take care on hard edges like the neck line – hit **X** to swap the colours and paint with white if you go over the edge. When you've completed your refined cut-out, you'll want to link it to the hard-edged cut-out of the body so they can be moved as one. To do this click on the head Layer to make it active, then **Ctrl+Click** just under the name of the body Layer (*Layer 2*) so that too is highlighted. Right-click on this Layer, then select **Link Layers** from the drop-down list. You can now select the **Move tool** (V) and drag the person and their head into a different position to improve the framing.



8 Blur the background for a shallow focus effect

To give a pro-style finish to your image, you can let the sharp focus fall away in the distance. To do this, click on the **Background** Layer to make it active and select the **Lasso tool**. Make a Selection around the area you want to blur, basing your Selection on the distance from the camera. Now click **Refine Edge** once more and move the **Feather** slider to **250px** to give a really soft edge to the selected area. Click **OK**, then punch this into a new Layer with **Ctrl+J**. Next, go to **Filter→Blur→Gaussian Blur**. In the palette, move the **Amount** slider to around **7px** to blur the background and give a shallow depth-of-field effect, making your subject stand out with a 3D feel. Click **OK** to complete the image.

CREATE A RETRO POLAROID EFFECT

FREE
10
TEMPLATES
ON THE CD

At a glance

YOU'LL LEARN How to create an artistic, Polaroid lift effect the digital way
YOU'LL NEED Photoshop or Elements
TIME REQUIRED 10 minutes
DIFFICULTY LEVEL Easy



On the disc

VIDEO LESSONS Watch as Gavin runs through this impressive technique on your computer screen.
START IMAGES The images Gavin used to complete this project are in the Start Images folder.



Turn photos into art using our custom-made emulsion-lift templates

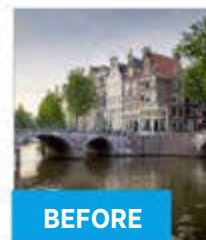
TECHNIQUE & PICS BY GAVIN HOEY

PHOTOGRAPHIC HISTORY BOOKS are crammed with great techniques, and many of them can be recreated digitally in Photoshop. However, some creative processes required skills that don't translate well into mouse clicks, and others produced results so random, they're almost impossible to recreate. Polaroid lifts are one of the latter.

The idea with a Polaroid lift is to remove the emulsion that holds the image from a Polaroid photo by soaking it. This is then placed on a textured art paper and carefully smoothed out. Wrinkles, tears and

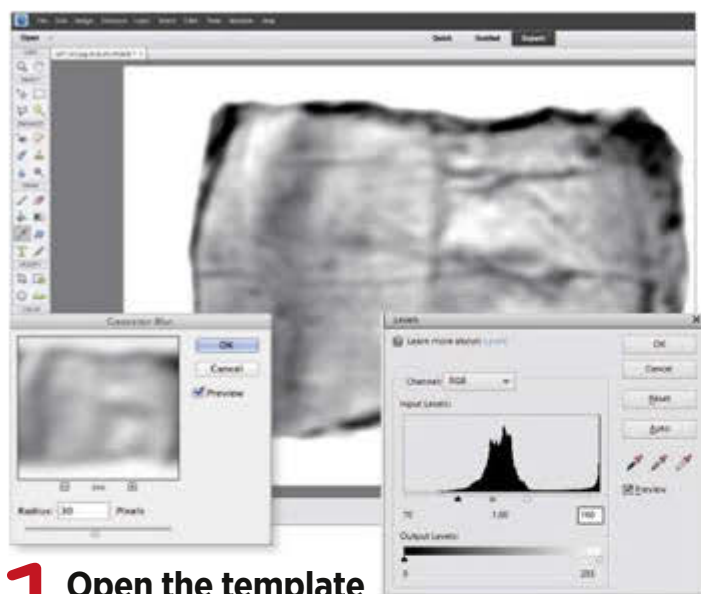
creases are unavoidable, but these add to the arty, distressed look.

In order to emulate the effect, we've created a set of templates using thin paper, brushes and a lot of patience! With some help from Photoshop you can now add your own photos and create a Polaroid-lift image in just a few minutes. It will work with a wide range of pics, but due to the textured nature of the effect, the best shots to use are those with strong, simple shapes or large areas of sky. We've included square and rectangular templates, and as they're all unique it's a good idea to try more than one.



BEFORE

This Amsterdam bridge was captured with an ultra wide, 10-20mm zoom lens in the subdued light just after sunset. A shutter speed of 1/15sec was used with an aperture of f/8.



1 Open the template you want to use and save it for later

Before you open a photo you'll need to choose and prepare one of the free templates. There are 10 to choose from so if in doubt open *Lift_01.jpg* from the *Lift Templates* folder in the Start Images. At the end of the technique you'll need a displacement map made from this image, so go to **Filter**→**Blur**→**Gaussian Blur**, enter a **Radius** of 30px and click **OK**. Then press **Ctrl+L** and change the **Shadows** value on the left from 0 to 70 and the **Highlights** value on the right from 255 to 160. Click **OK**. Save this for later by clicking **File**→**Save As...** and saving the file somewhere that's easy to find, like your desktop. Call the file **MAP**. Most importantly, save it in the **Photoshop PSD** file format.



2 Blend the photo with the template

Having completed the first step you need to undo it by clicking **Edit**→**Undo Levels** and then **Edit**→**Undo Gaussian Blur**. You can now open your photo or use *Amsterdam.jpg* from the Start Images instead. Hit **Ctrl+A** followed by **Ctrl+C** to select and copy the photo. Close it down with **Ctrl+W** and press **Ctrl+V** to paste it into the template image. You'll need to make the photo fit the template, so in the Layers palette (**Window**→**Layers**), drop the **Opacity** to 50% and press **Ctrl+T** to go into **Free Transform** mode. Drag the corner handles to resize the photo but leave plenty of room around the edges. Hit **Return** to confirm the changes, and back in the Layers palette, click where it says **Normal** and change the Blending Mode to **Overlay**. Now increase the **Opacity** to 75%.

AFTER

The shot has been transformed into an artistic Polaroid emulsion lift using the free templates in the Start Images folder.



3 Add the displacement map

At this point you might be thinking it's all gone together very smoothly, but look closer and you'll see the image doesn't match the wrinkles in the template. This is where the displacement map you made earlier comes in. To use it go to **Filter→Distort→Displace** and in the dialogue box that pops up, change both the horizontal and vertical scales to **25** and click **OK**. Navigate back to where you saved your *MAP.psd* file in Step 1, click on it and then click **Open**. You'll now have a wrinkled photo that matches the template. Lastly, if you don't want a white background open *Lift-Paper.jpg* from the Start Images and copy and paste it into the main image. Once it's in place, change the Blending Mode to **Multiply** to combine it with the image.

Bonus video Make a multiple lift effect

We've created a whole bunch of templates and it seems a shame to just use one, so why not try creating a Polaroid lift that looks like it's made of more than one photo? It's a great idea for wide format photos such as panoramas, and works well with square shots, too. The results are truly eye-catching, so it's well worth taking the time to create this unique effect. The entire process is explained in an extra video, and it's completely free to watch on our website.

All you have to do is sign up to our *Technique of the Month Extra* mailing list at www.photoanswers.co.uk/extra. Register now, and you'll get a fantastic free video to boost your skills every month, so you'll never be short of new digital techniques to try.



You can see how to create images with multiple Polaroid emulsion lift effects by viewing the free bonus video on our website at www.photoanswers.co.uk/extra

TURN YOUR FRIENDS INTO ANDROIDS!



If you've ever wanted to carry out an advanced transformation on a family portrait, here's how you can do it using Photoshop CS6 or CC

TECHNIQUE & PICS BY ANDY HEATHER

At a glance

YOU'LL LEARN How to use the Pen tool and replace a person's eyes with camera lenses

YOU'LL NEED Photoshop CS6 or CC

TIME REQUIRED 20 minutes

DIFFICULTY LEVEL Advanced



On the disc

VIDEO LESSONS Watch as Andy walks you through this creative imaging technique on your computer screen.

START IMAGES The shots Andy used can be found in the Start Images folder. They're called *Lens.png*, *Face.png* & *Wires.jpg*

A GREAT PHOTOSHOP CHALLENGE IS to take a portrait shot in an imaginative new direction with an utterly transformative technique. Carrying out highly creative Photoshop work on a shot – such as making a human look like an android – is a great way to push your Photoshop skills to an entirely new level. Image-editing software is often used to correct or repair pictures that haven't quite made the grade in camera, but applying more advanced Photoshop effects opens up fresh approaches where the only barrier is your imagination.

A vital part of this technique is learning to create smooth curves using the Pen tool. Mastering this will enable a wealth of artistic possibilities in the future, such as making complex Selections around objects. It will also involve creating a robotic head entirely in Photoshop, with no elements sourced in camera. Learning to make simple shapes look realistic with Photoshop filters and Layer Styles will enable you to blend real photos with digitally-generated objects, and this process opens up creative avenues that you may not have even considered. Making photographs and vector-based shapes blend together seamlessly is a great area to explore for any digital photographer and by following this technique, you'll take your first steps into a new style of image making, and a new way of thinking!

BEFORE

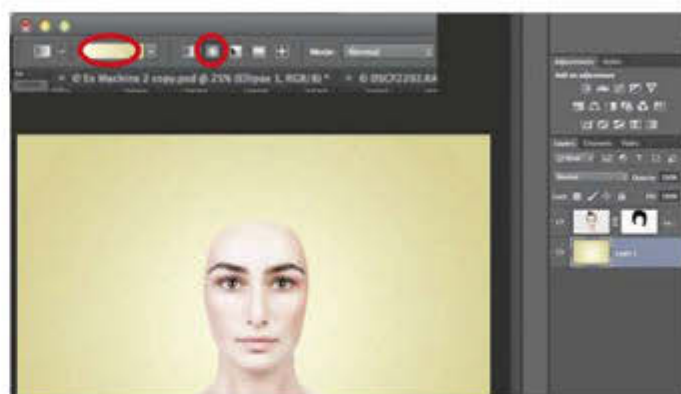


The model was captured head-on against a white background to make her easier to cut out. The robotic eye is a shot of a lens given a golden colour cast. Beneath the head plate is a shot of a bundle of wires and Christmas lights shot with a CSC in fairly dark conditions.



1 Cut out the face shape with the Pen tool

Open *Face.png* into Photoshop CS6 or CC and select the Pen tool. Click where you want the Path to begin to set an Anchor point. Before releasing the mouse, drag it to set the shape of the curve. Continue clicking and dragging around the ears and hair, to create a Path as above, until you're back at your starting point. Click on this to create the Path. Ensure the Path is smooth and symmetrical around the forehead, as this will be the shape of your android's face. You can **Ctrl+Click** on the Path to see the Anchor points, and then adjust the curves' shapes by holding **Alt** and pulling an Anchor point's control handles. You can also reposition an Anchor point by holding **Ctrl** and dragging it. When your Path is looking smooth, right-click anywhere on it and choose **Make Selection**.



2 Create a new background with the Radial Gradient tool

Use a Feather Radius of 0.6px and click OK. Now click the **Add Layer Mask** icon in the Layers palette. Hit **Ctrl+I** to invert the colours in the Mask and you'll reveal the face. Next, create a new Layer (**Shift+Ctrl+Alt+N**) and drag it to the bottom of the Layers stack. Select the **Gradient Tool** and click the **Radial Gradient** icon in the Options bar. Click on the Gradient itself in the Options bar to bring up the **Gradient Editor**, and double-click the left **Color Stop** icon under the Gradient. Pick a pale gold from the **Color Picker** and click OK, then set the right **Color Stop** to a slightly darker shade in the same way. With the colours set, drag a line from the centre of the picture to the edge to create a graduated background.



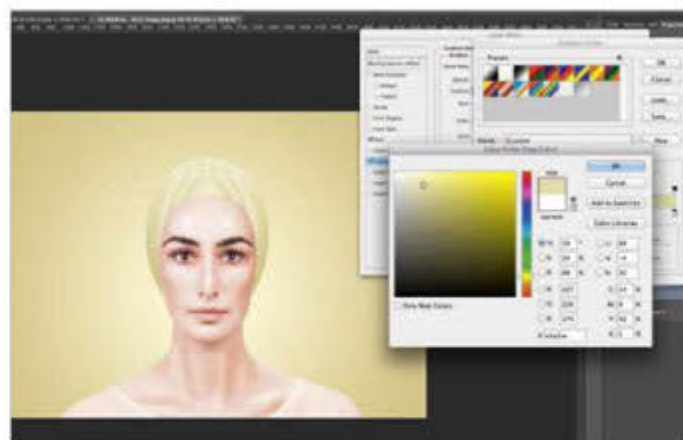
AFTER

With careful use of the Pen tool, the model's face has been cut out and her head replaced with one entirely created in Photoshop.



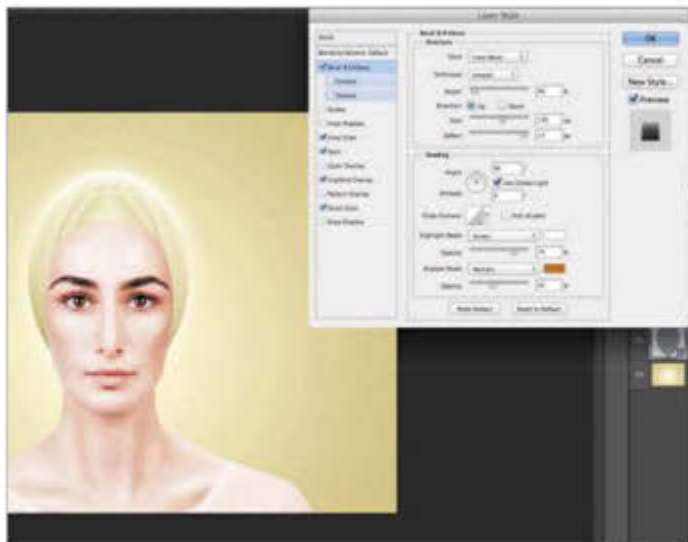
3 Create the basic head plate

Create a new Layer and draw an oval using the **Ellipse Tool (U)**. This is going to be the android's head plate. Use **Edit → Transform Path → Distort** and pull the handles to refine the shape. Hit **Return** to accept the changes, then in the Options bar, click on the **Fill** icon and select the **50% Gray** colour swatch to change the colour. Now double-click to the right of the Layer's name to open the **Layer Style** dialogue. Click on where it says **Satin** so the option is ticked and highlighted, and set the **Blend Mode** to **Overlay**. Click the colour box next to the Blend Mode and set a light gold colour such as **f9fbe0** in the # box. Set **Angle** to **0 degrees** and drag **Distance** and **Size** all the way to the right. Set the **Contour** option to **Ring - Double** then set the **Opacity** to **75%** to give the head plate a hi-tech look.



4 Add ambient and artificial lights

Still in the Layer Style dialogue box, click on where it says **Gradient Overlay**. Set the left-hand colour to a dark gold and the right-hand colour to a light gold. Set **Angle** to **90 degrees**. This will make the head look lighter at the top and darker at the bottom as if ambient light was hitting it. You also want to create artificial light sources inside the android's head. To do this, click on **Outer Glow** and then click the **Reset to Default** button before moving the **Size** setting to **250px**. Now choose the **Inner Glow** option, and again hit **Reset to Default** before moving **Size** to **250px**. In both cases, use a light gold colour for the glow effect.



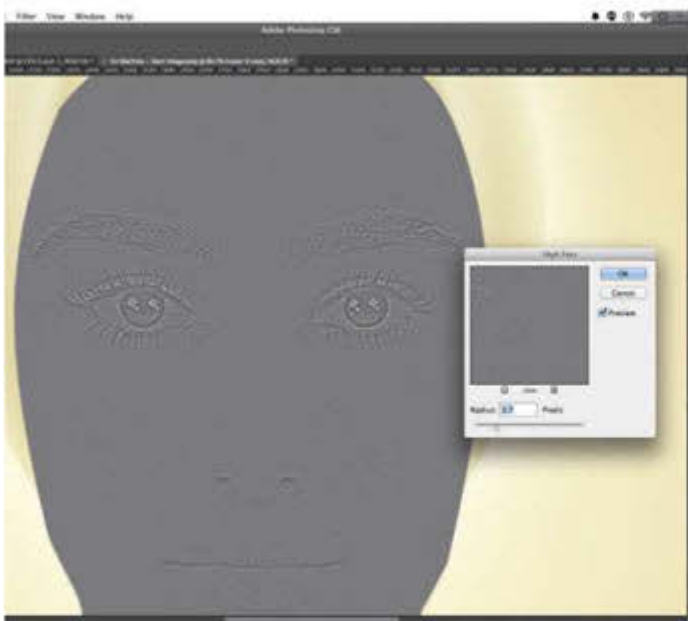
5 Make the head look more three dimensional with Bevel & Emboss

To make the head look even more realistic, click **Bevel & Emboss** so it's highlighted in the Layer Style dialogue box. In the Bevel & Emboss options, set the **Style** to **Inner Bevel**. Set **Technique** to **Smooth** and **Depth** to **85%**. Set **Direction** to **Up**, the **Size** to **130px** and the **Soften** to **15px**. Set the **Angle** to **90 degrees** and make sure the **Highlight Mode** is set to **Screen**. Click on the highlight colour box and set it to white at **75% Opacity**. Set your **Shadow Mode** to **Multiply** at **40% Opacity** with a dark orange or brown colour. This bevelled edge will further increase the highlights on the top of the head and the shadows at its base, giving the shape extra depth. Click **OK** to confirm the Layer Style you've set.



6 Make the skin look artificially smooth with the Surface Blur tool

Now you're going to make the skin look artificially smooth without blurring the edges of the face and neck. This can be done with the **Surface Blur** filter. Select the face Layer again and go to **Filter→Blur→Surface Blur**. Set **Radius** to **15 pixels** and **Threshold** to **30 levels** so the skin pores and imperfections are no longer visible. If you're using your own photo, these settings may vary, but in general you want to adjust the sliders until the skin looks smooth but the eyes, nose and mouth remain sharp. When you're satisfied that the skin has taken on an uncanny feeling, click the **OK** button to accept the changes and close the dialogue box.



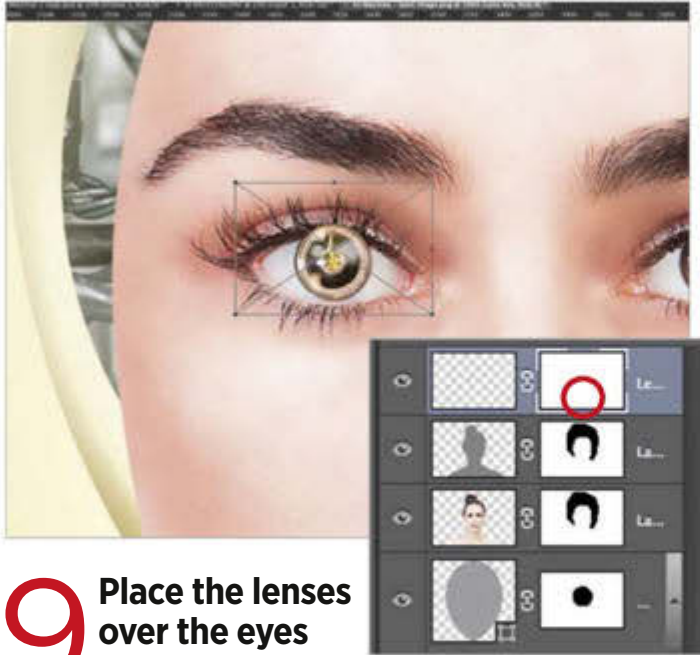
7 Sharpen the eyes, nose and mouth

Now you're going to sharpen to remaining details using the High Pass method. To do this, duplicate the face Layer by hitting **Ctrl+J**. Go to **Filter→Other→High Pass** and set the **Radius** to around **3px**. Look at the preview image and make sure that eyes, nose and mouth are clearly visible, but don't increase the Radius to the extent that haloes begin to appear around objects. Click **OK** when you're satisfied and then set the Layer's **Blending Mode** to **Overlay**. If the effect's too strong, reduce the Layer's **Opacity** to **70%**.



8 Place the wires behind the head

Select the head Layer again and press the **Add Layer Mask** icon in the Layers palette. Select the **Brush tool (B)** and set the brush **Hardness** to **100%**. With black as your foreground colour, click once in the Mask to cut a hole in the head shape so there's a gap between the face and the head plate, as in the image above. Now select the **Background** Layer and then go to **File→Place**. Select **Wires.jpg** and when the image appears drag the corner handles to resize it. Click the **Add Layer Mask** button again and with the same hard-edged, black brush, click once to hide the wires around the face, then hit **Ctrl+I** to invert the colours in the Mask and show the wires behind the face, just like in the lower image.



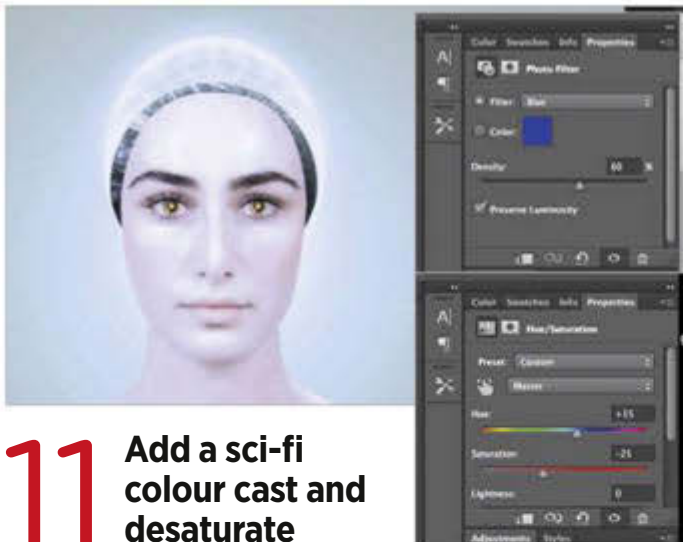
9 Place the lenses over the eyes

With the top Layer selected, go to **File→Place** and double-click *Lens eye.png*. Resize it with the corner handles and place it so it fits over one of the eyes. Hit **Return** to commit to the changes, then hold **Alt** and drag the lens eye directly on the image to create a duplicate. Release **Alt** and move it into position over the other eye. Use the **Move tool (V)** with the cursor keys to fine-tune the placement. When it's in position, hit **Ctrl+E** to merge the two Layers. Click the **Add Layer Mask** button and paint into the Mask with a soft, black brush to hide the upper part of the lens so it looks as though it's beneath the eyelid. Use the **Burn tool (O)** to create shadows under the upper eyelid where they'd be cast.



10 Apply a lens blur effect to simulate shallow depth-of-field

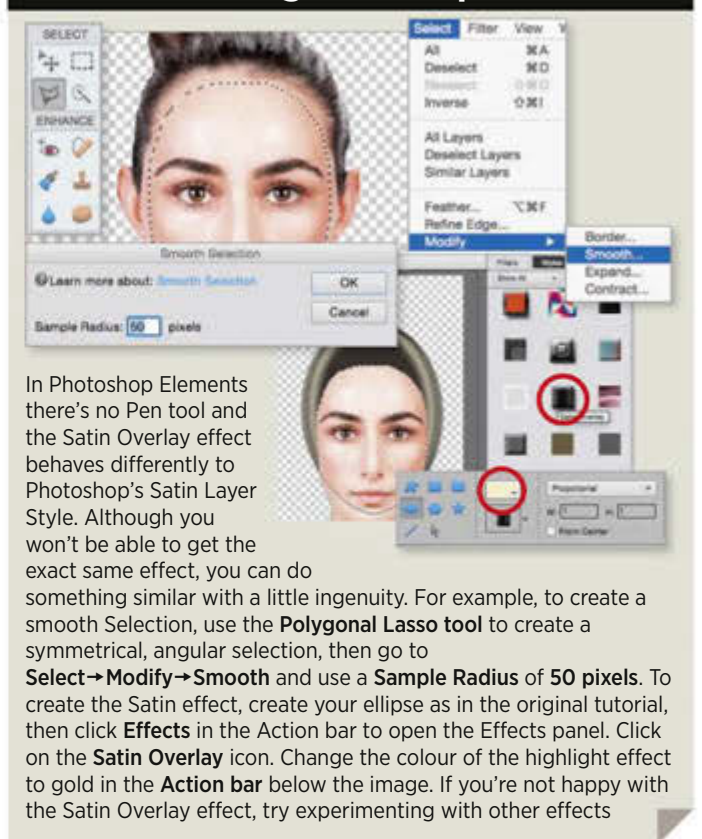
To create the illusion that the constructed image was taken with a camera and to give a more graceful appearance, merge all the visible Layers to a new Layer at the top of the stack by clicking on the top Layer and hitting **Shift+Ctrl+Alt+E**. With this new Layer active, go to **Filter→Blur→Lens Blur**. Set **Radius** to 18, **Blade Curvature** to 41 and **Rotation** to 90. Click the **Add Layer Mask** icon and with a black brush, paint into the Mask over the eyes, nose, mouth and forehead to reveal the foremost part of the face, leaving the rest of the head and body slightly blurred.



11 Add a sci-fi colour cast and desaturate

A great trick for making a composite image look unified and realistic is to make sure the saturation and colour cast on each element matches. To do this, make sure the top Layer is selected and click on the **Create new fill or adjustment layer** icon. Select **Hue/Saturation** from the list. In the palette that appears, set the **Hue** to +15 and the **Saturation** to -25. This will decrease the intensity of the colour in each of the Layers and shift the image towards a cooler hue, which is a little more in keeping with the look of a Hollywood sci-fi film. To further emphasise this, create another Adjustment Layer and this time select **Photo Filter**. In the palette, set **Filter colour** to **Deep Blue** and **Density** to 60%. When you're happy with your shot, go to **File→Save As** and save a copy of your shot. Use the JPEG format for sharing your shot or the Photoshop PSD format to keep all the Layers for future use.

How to do it using Photoshop Elements



In Photoshop Elements there's no Pen tool and the Satin Overlay effect behaves differently to Photoshop's Satin Layer Style. Although you won't be able to get the exact same effect, you can do something similar with a little ingenuity. For example, to create a smooth Selection, use the **Polygonal Lasso tool** to create a symmetrical, angular selection, then go to **Select→Modify→Smooth** and use a **Sample Radius** of 50 pixels. To create the Satin effect, create your ellipse as in the original tutorial, then click **Effects** in the Action bar to open the Effects panel. Click on the **Satin Overlay** icon. Change the colour of the highlight effect to gold in the **Action bar** below the image. If you're not happy with the Satin Overlay effect, try experimenting with other effects.

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TWO PHOTOSHOP EXPERTS, ONE IMAGE, 10 MINUTES.
THIS MONTH DAN AND MATTY DUEL OVER A LIVE BAND SHOT



START IMAGE

This is the RAW image supplied to our experts. It's in the Start Images folder, so you can try it too.

On the CD



VIDEO LESSONS

See how Dan and Matty completed their techniques in two videos on your computer screen.

START IMAGES The picture is in the Start Images folder, so you can try it, too. It's a RAW file called *Guitarist.dng*

At a glance

YOU'LL LEARN How to enhance shots

YOU'LL NEED Adobe Camera Raw

TIME REQUIRED 10 mins

DIFFICULTY LEVEL Medium

ONE OF THE BEAUTIES OF PHOTOGRAPHY is that we all have our own ideas on what makes an image great. This viewpoint isn't limited to taking the picture, because different approaches can be taken in processing the image too, and it's here that a picture can be reinvented or ruined!

With the same RAW file as a starting point, we got two Photoshop gurus to enhance it in Camera Raw, explaining their individual approaches and methods along the way. Both Dan and

Matty have extensive experience shooting and editing live music photography, but you can expect their ideas – and their results – to be startlingly different. Though the original image above is clearly recognisable in both outcomes, it's been transformed into something new. Turn the page to see what they did and how they did it.

You can follow the two video lessons to see all of their tips and tricks, then download the *Guitarist.dng* start image to have a go yourself!

The rules of engagement

Some guidelines were needed to stop our experts wandering off piste. To keep the playing field level, both contenders were armed with a copy of Photoshop and were only allowed to use Adobe Camera Raw to make their changes to the RAW file. A time limit of 10 minutes was enforced. Judging the results is *Digital Photo's* Andy Heather. The original shot is very underexposed and in dire need of rescue, so he wants to see if either of our experts have what it takes to save this shot from the Recycle Bin!

Andy,
the judge



DAN'S NOISE FREE SPLIT-TONE METHOD

A S AN AVID BAND PHOTOGRAPHER I'm sympathetic to the exposure problems present in this shot. Although it's underexposed, I believe this picture is a diamond in the rough. Somewhere hiding in the pixels is a guitarist striking a strong 'rock' pose. If you're not currently shooting in the RAW format, this image demonstrates perfectly why you should, as you can successfully alter the exposure by a few stops in processing. A relatively high ISO of 1600 was used to take the photo and this means Noise is evident. This will be further exaggerated by brightening the exposure digitally. My solution is to crop in tightly to lose the messy background and focus the viewer's attention solely on the guitarist. Then I'll apply some Noise Reduction, and add a split-toning effect to fix the strange colours cast by the stage lights.

- Crop out the messy background.
- Increase the Exposure and Shadows sliders to get the image looking good, then use the Adjustment Brush tool to 'spotlight' the subject.
- Mute the colours in the shot and then add a subtle red and blue split-tone.
- Smooth out the digital Noise in the shot with the Noise Reduction tab.
- Watch Dan's video to see the technique in-depth.



Crop tool for a tighter composition

Adjustment Brush tool to spotlight the guitarist

Crop out messy background

Lift the Whites and reduce the Blacks for extra contrast

MATTY'S GRAINY MONO TECHNIQUE

HAVING SHOT MY FAIR SHARE OF live music, I have to admire the composition and timing of this image – although I hope the photographer packed some earplugs as it looks very loud! The image is vastly underexposed, but as the RAW format has been used, this gives us a second chance at polishing this picture. For me, this image needs some much-needed atmosphere and I think the best route is to convert it to black & white.

Mono conversions can look a little washed out with a lack of contrast, but by editing the file in Adobe Camera Raw, reintroducing contrast is as easy as dragging a slider to the right. Lastly, the changes I make will increase the Noise that's already evident in the image. But rather than trying to get rid of it, I'm tempted to enhance it, as increasing the 'grain' will produce a gritty 'film-style' feel to the shot.

- Remove colour with Saturation.
- Increase Exposure and Shadows to brighten the image.
- Crop the image to give a better balanced composition.
- Add impact with Contrast and Clarity.
- Enhance atmosphere by adding Grain effect.
- Watch Matty's video to see the technique in-depth.

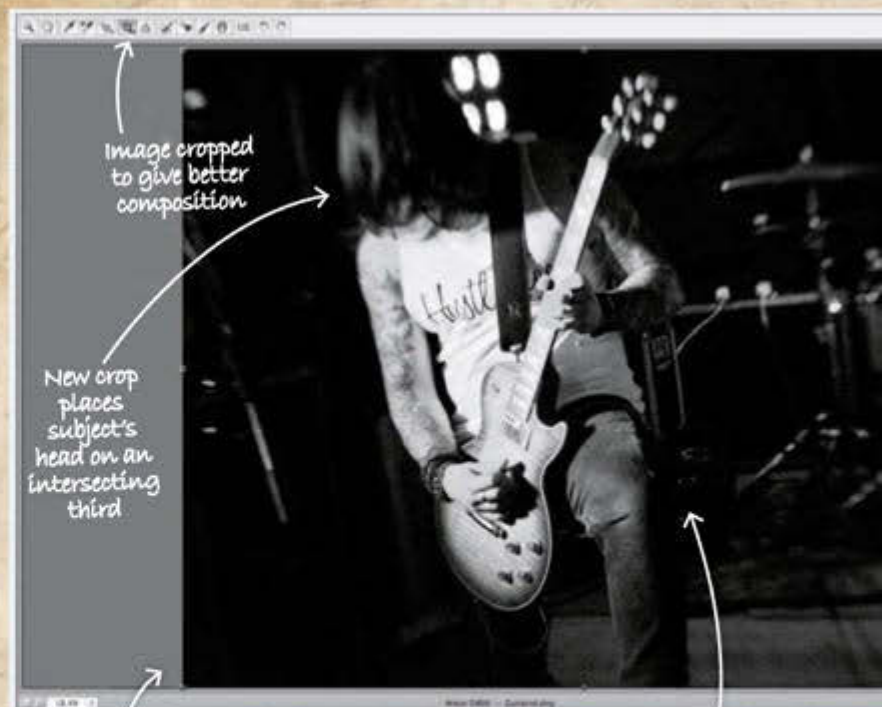
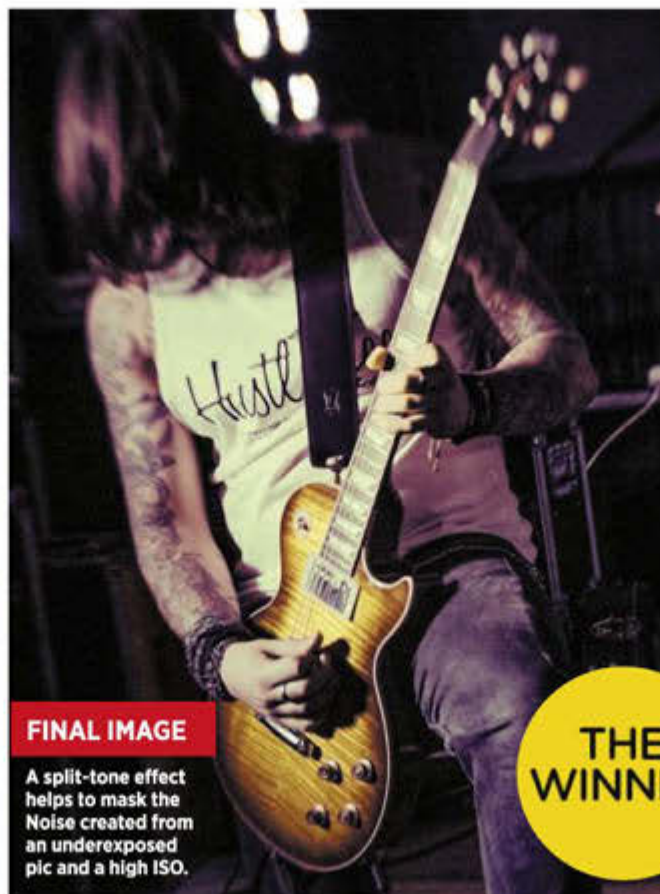
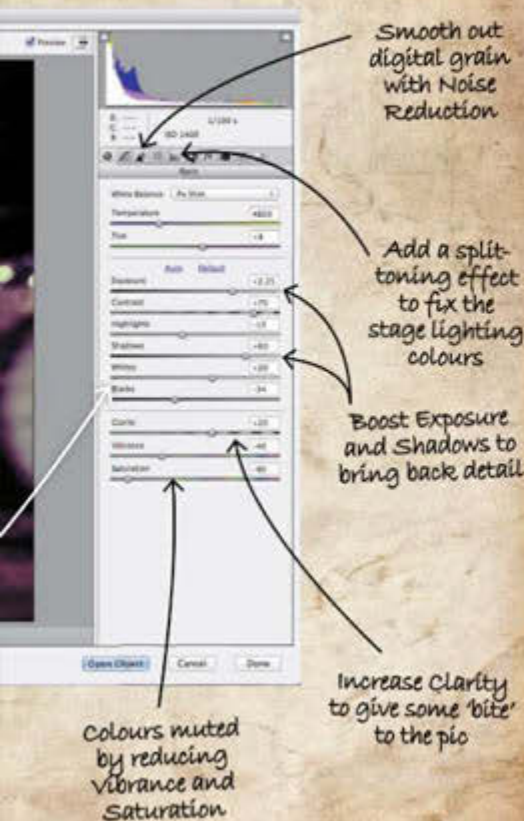


Image cropped to give better composition

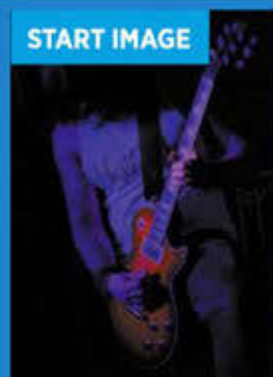
New crop places subject's head on an intersecting third

Shield gives better view of the crop area

Increasing Exposure & Shadows reveals more detail in the frame



START IMAGE



The final verdict

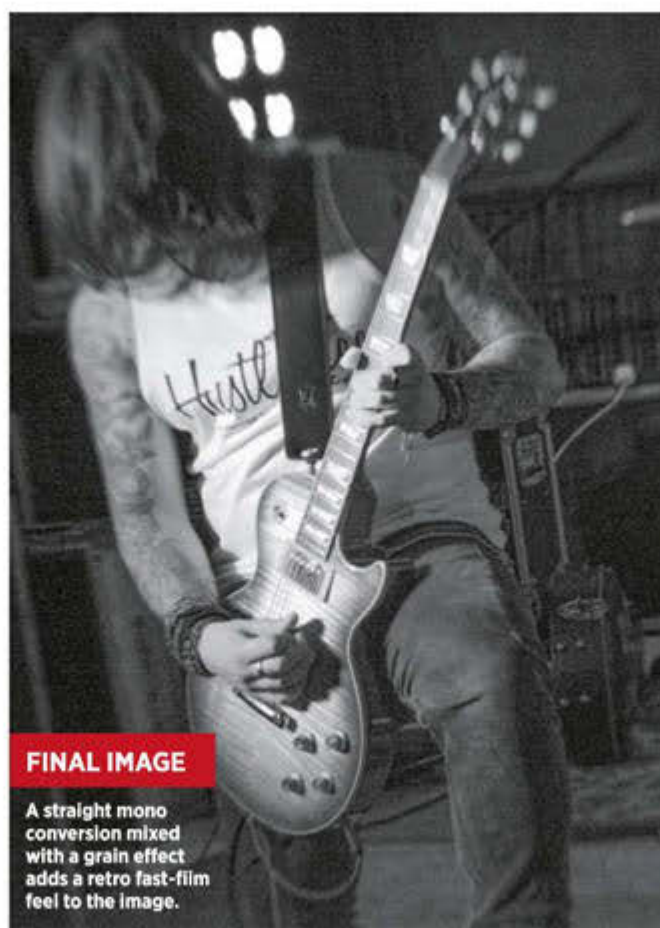
Our two photographers have taken very different approaches to produce a creative image from the original, underexposed RAW. Dan's split-tone effect is arguably a more sympathetic treatment that changes the harsh and garish purple stage lighting to softer, more natural tones. The result is close to natural – especially in the guitarist's skin tone.

Matty's treatment went in the opposite direction and embraced the Noise in the frame caused by the use of a high ISO value.

Both experts cropped the image to allow the subject to take up more of the frame and to get rid of the background distractions. Both also looked to recover detail and balance the exposure – using the extra latitude found in a RAW file to increase the appeal of the

Both experts cropped the image to help the subject fill the frame

image. It's a tough call as they're very different pictures, but my winner is Dan's stylised split-toning effect. Looking like a Rolling Stone cover, the warm, vintage-style effect is the perfect complement to the guitarist's rock pose.



YOUR PICTURES

Want your shots to benefit from our supportive expert advice? Send your best pics in and see what we can do: dpimages@bauermedia.co.uk

Your experts



Digital Photo's technical editor, Dan, and assistant editor, Matty, are on hand to help with insightful shooting and editing tips. To have your work shown and assessed in *Your Pictures*, email a selection of no more than five images to the address on the left, and put *Your Pictures* in the subject box.



BEFORE

► PALEETES & PROMONTORIES by Omar Nakib

Camera Canon 5D MkIII & EF 17-40mm f/4L USM lens Exposure 101secs @ f/16, ISO 100 Software Photoshop & Lightroom



Perched on a rocky cove in Northern Italy, I was faced with strong winds and lapping waves.

This was a little problematic as I was trying to capture a long exposure! Initially, my aim was to shoot this stunning coastline at sunset to bathe it in a golden light. But as the light dipped I noticed the brightly coloured buildings drop in vibrancy so I made a decision to take the shot earlier on to preserve the colours.

■ **DAN SAYS** “This is a beautiful shot of Riomaggiore; the Southern of five colourful coastal towns on the Italian Riviera. It has to be one of the most photogenic locations in the world, but Omar has distinguished his shot from the hundreds of others by finding a new angle and using a 10-stop filter for a long exposure.

“Cars cannot physically reach the location so it has a unique quality, and demands some photographic effort. Omar’s use of a 10-stop filter works well, blurring the water and clouds to reinforce the timeless appeal. If you look at the water carefully you can see a few hints of red, possibly from a couple of brightly-coloured boats which

moved while the shutter was open. This hint of colour is a little distracting and the pic would benefit if they were removed using the **Spot Healing Brush tool** in Photoshop or Elements. Just select the tool and paint over the offending areas to get rid of them. This makes the shot stronger as the water is uninterrupted and the viewer’s eye isn’t taken away from the heart of the image.

“Omar cleaned up some rocks in the bottom right corner of the original shot using the **Clone tool** in Photoshop. Omar should be commended for this work, as it’s seamless! However, I’d be tempted to use the **Crop tool**

When there are multiple colours in a shot, it’s best to fine-tune each one individually

with the Rule of Thirds overlay to remove this part of the shot completely. Doing so positions the corner edge of the main red house on a ‘third’ line and makes it the heart of the picture.

“With the crop area still active, I’d level up too by clicking the **Straighten tool** and running this

over the horizon. It’s then worth recomposing a little so that the waterline sits one third of the way up the frame. Hit **Return** after these tweaks to commit to the changes.”

■ **MATTY SAYS** “I agree with Dan on the cropping, and once the composition has been fine-tuned this shot becomes all about the colours. And there certainly are a lot of them in this picture! I think Omar was absolutely right to take the shot when he did rather than waiting for sunset, as the colours are fantastic. Had he waited for the Golden Hour, the lower angle of the sun would have increased contrast, thickening the shadows and losing detail, and much of the richness that makes the shot work so well could have been washed over with a golden haze.

“Although the vibrant hues are wonderful, I think they could be pushed even further to make the colours really pop. Because there are so many different tones in this shot, a regular saturation wouldn’t give enough selectivity. Instead, when there are multiple colours, it’s best to fine-tune each one individually (see the panel).

“The changes are subtle, but making them transforms a good travel shot into a great one. Well done, Omar!”



AFTER

After some minor cloning work and colour tweaks, this shot is so good it’s ready to go in a glossy travel guide!



Expert advice Boost saturation more effectively

To increase saturation in a more controlled way, click on the **Adjustment Layer** icon in the Layers palette and choose **Hue/Saturation** from the list that appears.

In the Hue/Saturation palette, click on the box that says **Master** and change it to a specific colour such as **Reds**. When you've adjusted the **Saturation** of this colour, you can move on to the next. This way you can finely tune the **Saturation** of each colour in the shot so they're all working in harmony.

Master	⌘2
✓ Reds	⌘3
Yellows	⌘4
Greens	⌘5
Cyans	⌘6
Blues	⌘7
Magentas	⌘8



▶ REED CORMORANT by Liam Cornell

Camera Canon 70D & 70-300mm lens
Exposure 1/800sec @ f/6.3, ISO 400



I took this photo on the beach at Kalk Bay, near where I live in Cape Town, South Africa. I was taking photos of surfers, and as I turned around to go home I saw this cormorant perched on a rock with the last of the evening light shining down on him. I was able to get quite close to take this photo and love the light on the cormorant, with the soft blue tones of the sea as a wave breaks in the background.

■ **MATTY SAYS** “Liam’s image is a great example of taking advantage of opportunities when they present themselves. Although he wasn’t intending to shoot cormorants, Liam

reacted quickly enough to not only frame up on the bird, but also to select a large aperture of f/6.3. This has kept the subject sharp and thrown the background into an attractive blur. The advantage of this approach is it gives a good sense of separation between bird and backdrop, while still keeping the seaside context in place. That’s not all I like about the shot though, as the golden evening light bathes the subject in beautiful warm tones.

BEFORE



There’s even a catchlight in the bird’s eye, giving extra depth to its features.

“While all the right elements are present, I think they could have been arranged differently to make a stronger image. The main issue is that the bird is looking out the frame, rather than into it, and this unbalances the composition.

“In the vast majority of cases, subjects need more space to move into than they have behind them, so positioning a right-facing bird on the right of the frame will create compositional tension, rather than harmony. If the bird were facing the other way, it’d be perfect, but Photoshop can be used to rearrange the scene.

“To do this, I duplicated the **Background Layer (Ctrl+J)**, and made a broad, feathered Selection around the bird with the **Lasso tool**. I placed this on another new Layer with **Ctrl+J**, and then dragged it to the left of the frame using the **Move tool**.

AFTER

Moving the cormorant to the left of the frame gives a better balanced composition, and using the **Shadows/Highlights** command reveals extra detail in the plumage.

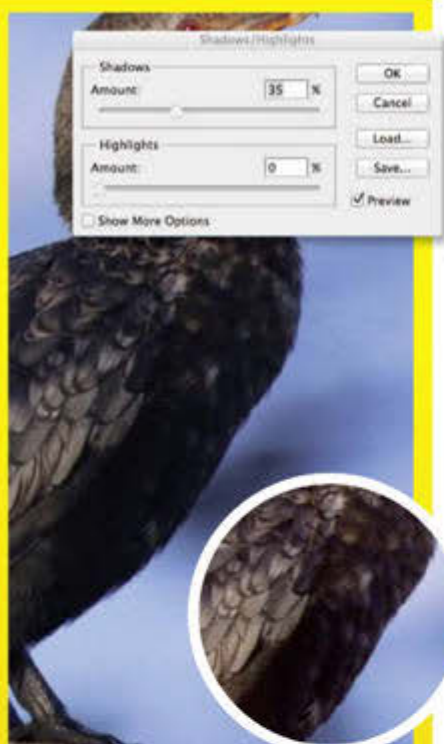


“Moving the copy of the Background Layer to the right covers up most of the original bird – although a little cloning and healing was needed to make it completely disappear.

“The next fix was to repair the bottom right corner of the bird’s perch. It’s cropped off in the original, so I selected a small part of the rock with the Lasso tool and placed it in a new Layer. By using Free Transform (Ctrl+T) I then rotated and distorted it to match the existing rock, giving a natural look.

“The last job was to enhance the bird’s plumage. Although the light is fantastic, it’s also quite contrasty and this makes the feathers very dark. To reveal more detail, I selected the bird and applied a Shadows/Highlights adjustment. This boosted the dark areas, giving more definition to the subject. The revamped framing and extra tweaks make this great shot even stronger, and though he wasn’t expecting to shoot wildlife, Liam should be proud of what he’s achieved.”

Expert advice Use Shadows/Highlights to reveal detail



The Shadows/Highlights command is a great solution for revealing detail in high contrast images with dark shadows. To find it, go to **Image → Adjustments → Shadows/Highlights** in Photoshop, or **Enhance → Adjust Lighting → Shadows/Highlights** if you use Elements. A dialogue box will appear with Amount sliders for the Shadows and Highlights. You’ll seldom need to alter the Highlights, so the Amount here is usually left on 0%. The Shadows are a different matter though, and by increasing this setting, you can even out the contrast and give more definition to a shot or a selected area.



AFTER
The foreground shadows are integral to John’s composition, and increasing contrast with the Dodge and Burn tools makes them more pronounced.

BRIGHTON by John Cole

Camera Sony A77 II & Tokina 11-16mm lens
Exposure 10secs @ f/11, ISO 100 Software Photoshop



This image is part of a series I’m shooting as a project to capture Brighton’s sea front. It was taken just before New Year and the promenade was quiet. I needed a long exposure, so attached the camera to my tripod to keep it steady.

DAN SAYS “John’s low-light picture has a strong composition with a powerful lead-in line carrying the viewer’s eye into the frame from the bottom right corner. There’s the option to make the bench in the middle distance more of a foreground anchor, but John has decided to include the building and ornate streetlight on the left of the frame instead. This is an ‘either-or’ choice, and John’s settled for his decision with confident framing. He’s also created some great starburst effects on the lights by using an aperture of f/11.

“What I like about the scene is the way shadows have been used as part of the composition. The bright light source out of frame on the right has cast some very definite and precise shadows of the railings, and John has employed these to excellent effect. Although painters train their eyes to see ground shadows as permanent ‘structures’ in a picture, many photographers don’t acknowledge them in the same way. This is because everyday life has taught our brains to ignore them. If this wasn’t the case, we’d continually be worried about tripping over that curious black shape across the pavement!

“Because the hard-edged shadows are so important to John’s picture, I’d be tempted to enhance them. By making the pavement brighter and the shadows darker, the contrast will be increased and they’ll stand out even more as integral, compositional structures. The Dodge and Burn tools provide the most



straightforward way of achieving this effect. After duplicating the Background Layer with **Ctrl+J**, select the Burn tool and in the Tool Options bar, set Range to Shadows and Exposure to 4%. Play a brush over the dark areas and you’ll see them thicken. Make a copy of this Layer, and then select the Dodge tool. This time, leave Exposure on 4% but set Range to Midtones. Now brush over the paved areas and you’ll see them brighten a little. Dodging and burning increases saturation too, and this helps to accentuate the colours in John’s low-light scene. John’s already taken a cracking urban landscape, but these subtle tweaks inch up the drama.”

Expert advice Controlling colour with the Sponge tool

When using the Dodge and Burn tools in the way described, you’ll also notice that the intensity of the colour is increased along with the contrast. On some pictures, such as John’s low-light scene, this can be beneficial, but on others it can leave an unnatural effect. Grouped with the Dodge and Burn tools is a third tool, called Sponge.

The easiest way to see this is as a brush that will either reduce or intensify the colour on the area it’s applied to. In the Tool Options bar, you can set the Sponge tool to either Saturate or Desaturate, and by using the latter, you can normalise the colour changes made by the Dodge and Burn tools.



MARRAKECH SOUK

by Daniel Marsh

Camera Nikon D5200 & 18-55mm lens

Exposure 1/6sec @ f/5.6, ISO 200 Software Lightroom



I took this shot in a Moroccan Souk. It was intensely busy, but this calm shopkeeper was the perfect juxtaposition to the hordes of people rushing by.

I waited for a gap in the crowd and eventually managed to get this picture. I then added a toned, rustic look in Lightroom.

DAN SAYS “The first thing I want to say is, what a great street shot! Dan has done fantastically well to capture this candid shot of a shopkeeper in a natural pose. I like the wide framing as it gives the shot bags of context, and the shopkeeper looks swamped by the sprawl of candle lanterns and trinkets.

“One issue for me though, is that the subject of the pic – the shopkeeper – gets rather lost in the darkness in Dan’s sepia-toned original. I suspect the bright reflections on the candle lanterns have tricked his metering system into underexposing the scene, and unfortunately, the bright circular highlights dotted around the edge of the frame are the first things that attract the viewer’s eye.

“These highlights need toning down to lessen the distraction, and although Dan’s sepia finish is nicely accomplished, it doesn’t help clarify the story being told. I think some colour is needed to rescue the shopkeeper from the shadows, and separate him from the extensive metalware on show.

“There’s a staggering amount of detail here, and for me, it’s shouting out for a High Dynamic Range (HDR) treatment. This would bring out the textures across the entire brightness range, from the darkest shadows to the brightest highlights. It’s possible to create an HDR effect from a single RAW – the file format Dan used to capture the shot. To do this, open the file into Adobe Camera Raw and set the Exposure slider to -2.0 to see the highlight detail. Click Open Image and then save it as *Underexposed.jpg*. Now open the RAW again, set the Exposure to 0 and save it as *Normal.jpg*, then open it a third time and change the Exposure to +2. Save this version as *Overexposed.jpg*. All three JPEGs are then loaded into a special HDR program such as HDRsoft’s Photomatix or Google’s Nik Efex Pro 2 (both provide free downloads of demo versions for you to play with).

“Restraint is needed when applying an HDR effect, as it’s easy to overdo. I used a natural-looking preset which pulled the colourful shopkeeper out of the darkness. To draw the attention to the centre of the scene, I then applied a vignette effect (see the panel to find out how to do this).”



AFTER

Creating an HDR effect from Dan’s image reveals extra detail and pulls the subject out of the dark shadows.

BEFORE



Expert advice Add a Vignette with Levels

Open your shot into Photoshop or Elements and in the Layers palette (**Window → Layers**), click on the Adjustment Layer icon. Choose Levels from the list that appears. Under the Histogram graph you’ll see the black Shadows slider on the left, the grey Midtones slider in the middle and white Highlights slider on the right. For a vignette effect, drag the Midtones slider to a value of 0.75 to darken the whole image.

Now select the Brush tool from the Toolbox and hit D followed by X to set black as the foreground colour. When you paint onto the picture, you’ll actually be painting into the Mask created with the Adjustment Layer. This process will remove the darkening effect wherever you paint. Use a large, soft-edged brush, and brush over the middle of the shot leaving the dark vignette effect around the edges of the frame.

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All Japanese filters are packed in a twist box

Underwater Filters Blue water for water with Coral



UK OPTICAL RESIN MADE IN UK

Blue Water 100mmx100mm
Blue Water 104mm Disc
Blue Water 125mmx125mm
Blue Water 27mm
Blue Water 30mm
Blue Water 30.5mm
Blue Water 34mm
Blue Water 37mm
Blue Water 37.5mm
Blue Water 40.5mm
Blue Water 43mm
Blue Water 46mm
Blue Water 49mm
Blue Water 52mm
Blue Water 55mm
Blue Water 58mm
Blue Water 62mm
Blue Water 67mm
Blue Water 72mm
Blue Water 77mm

For water without Coral

Green Water 100mmx100mm
Green Water 104mm Disc
Green Water 125mmx125mm
Green Water 27mm
Green Water 30mm
Green Water 30.5mm
Green Water 34mm
Green Water 37mm
Green Water 37.5mm
Green Water 40.5mm
Green Water 43mm
Green Water 46mm
Green Water 49mm
Green Water 52mm
Green Water 55mm
Green Water 58mm
Green Water 62mm
Green Water 67mm
Green Water 72mm



SLIM KOOD FILTERS MADE IN CHINA

UVC 46mm
UVC 49mm
UVC 52mm
UVC 55mm
UVC 58mm
UVC 62mm
UVC 67mm
UVC 72mm
UVC 77mm
UVC 82mm
UVC 86mm
52mm UV Multi Coated
55mm UV Multi Coated
58mm UV Multi Coated
62mm UV Multi Coated
67mm UV Multi Coated
72mm UV Multi Coated
77mm UV Multi Coated
46mm PLC
49mm PLC
52mm PLC
55mm PLC
58mm PLC
62mm PLC
67mm PLC
72mm PLC
77mm PLC
82mm PLC
86mm PLC



OPTICAL FILTERS MADE ON A MERCURY BED MADE IN JAPAN

UV 24mm
UV 25mm
UV 27mm
UV 28mm
UV 30mm
UV 30.5mm
UV 34mm
UV 35.5mm
UV 37mm
UV 37.5mm
UV 39mm
UV 40.5mm
UV 43mm
UV 46mm
UV 48mm
UV 49mm
UV 52mm
UV 55mm
UV 58mm
UV 62mm
UV 67mm
UV 72mm
UV 77mm
UV 82mm
UV 86mm

OPTICAL FILTER GROUND GLASS

Skylight 1B 37mm
Skylight 1B 40.5mm
Skylight 1B 43mm
Skylight 1B 46mm
Skylight 1B 48mm
Skylight 1B 49mm
Skylight 1B 52mm
Skylight 1B 55mm
Skylight 1B 58mm
Skylight 1B 62mm
Skylight 1B 67mm
Skylight 1B 72mm
Skylight 1B 77mm
Skylight 1B 82mm

OPTICAL FILTERS MADE ON A MERCURY BED

Skylight 24mm
Skylight 25mm
Skylight 25.5mm
Skylight 27mm
Skylight 28mm
Skylight 30mm
Skylight 30.5mm
Skylight 34mm
Skylight 35.5mm
Skylight 37mm
Skylight 37.5mm
Skylight 40.5mm
Skylight 43mm
Skylight 46mm
Skylight 48mm
Skylight 49mm
Skylight 52mm
Skylight 55mm
Skylight 58mm
Skylight 62mm
Skylight 67mm
Skylight 69mm
Skylight 72mm
Skylight 77mm
Skylight 82mm
Skylight 86mm
Skylight 95mm

INFRA RED 720nm Opt. GROUND GLASS

Infra Red 49mm
Infra Red 52mm
Infra Red 55mm
Infra Red 58mm
Infra Red 62mm
Infra Red 67mm
Infra Red 72mm
Infra Red 77mm
Infra Red 82mm
Infra Red 86mm
Skylight 105mm

Opt. GROUND GLASS 2 STOPS

ND4 27mm
ND4 28mm
ND4 30.5mm
ND4 34mm
ND4 35.5mm
ND4 37mm
ND4 37.5mm
ND4 40.5mm
ND4 43mm
ND4 46mm
ND4 48mm
ND4 49mm
ND4 52mm
ND4 55mm
ND4 58mm
ND4 62mm
ND4 67mm
ND4 72mm
ND4 77mm

THREE STOP

ND8 37mm
ND8 40.5mm
ND8 46mm
ND8 49mm
ND8 52mm
ND8 55mm
ND8 58mm
ND8 62mm
ND8 67mm
ND8 72mm
ND8 77mm

4 STOPS

ND16 46mm
ND16 52mm
ND16 55mm
ND16 58mm
ND16 62mm
ND16 67mm
ND16 72mm
ND16 77mm
ND16 82mm

Opt. GROUND GLASS

9 STOPS

ND 400 52mm
ND 400 58mm
ND 400 62mm
ND 400 67mm
ND 400 72mm
ND 400 77mm
ND 400 82mm

Opt. GROUND

Polariser Linear 39mm
Polariser Linear 43mm
Polariser Linear 46mm
Polariser Linear 48mm
Polariser Linear 49mm
Polariser Linear 52mm
Polariser Linear 55mm
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Polariser Linear 67mm
Polariser Linear 72mm
Polariser Linear 77mm
Polariser Linear 82mm
Polariser Linear 86mm

Polariser Circular 25mm
Polariser Circular 25.5mm
Polariser Circular 27mm
Polariser Circular 28mm
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Polariser Circular 30.5mm
Polariser Circular 34mm
Polariser Circular 35.5mm
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Polariser Circular 37.5mm
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Polariser Circular 43mm
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Polariser Circular 48mm
Polariser Circular 49mm
Polariser Circular 52mm
Polariser Circular 55mm
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Polariser Circular 67mm
Polariser Circular 72mm
Polariser Circular 77mm
Polariser Circular 82mm
Polariser Circular 86mm

Opt. GROUND CLOSE UP SETS +1, +2, +3

Close Up Set 37mm
Close Up Set 40.5mm
Close Up Set 43mm
Close Up Set 43.5mm
Close Up Set 46mm
Close Up Set 49mm
Close Up Set 52mm
Close Up Set 55mm
Close Up Set 58mm
Close Up Set 62mm
Close Up Set 67mm
Close Up Set 72mm
Close Up Set 77mm
Close Up Set 82mm made in China

Opt. GROUND HALF DIOPTR

Split Field 49mm
Split Field 52mm
Split Field 55mm
Split Field 58mm
Split Field 62mm
Split Field 67mm

Opt. GLASS VERY FINE ETCHED

Starburst 4X 27mm
Starburst 4X 28mm
Starburst 4X 30.5mm
Starburst 4X 34mm
Starburst 4X 35.5mm
Starburst 4X 37mm
Starburst 4X 40.5mm

Starburst 4X 43mm
Starburst 4X 43.5mm
Starburst 4X 46mm
Starburst 4X 49mm
Starburst 4X 52mm
Starburst 4X 55mm
Starburst 4X 58mm
Starburst 4X 62mm
Starburst 4X 67mm
Starburst 4X 72mm
Starburst 4X 77mm
Starburst 6X 27mm
Starburst 6X 28mm
Starburst 6X 30.5mm
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Starburst 6X 67mm
Starburst 6X 72mm
Starburst 6X 77mm

Starburst 8X 37mm
Starburst 8X 49mm
Starburst 8X 52mm
Starburst 8X 55mm
Starburst 8X 58mm
Starburst 8X 62mm
Starburst 8X 67mm
Starburst 8X 72mm
Starburst 8X 77mm

DIFFUSER

Soft Focus 49mm
Soft Focus 52mm
Soft Focus 55mm
Soft Focus 58mm
Soft Focus 62mm
Soft Focus 67mm
Soft Focus 72mm

FOG OPTICAL GLASS

Fog 49mm
Fog 52mm
Fog 55mm
Fog 58mm
Fog 62mm
Fog 67mm
Fog 72mm

Opt. DIOPTR WITH CENTER HOLE FOR SHARP CENTER

Centre Spot Clear 49mm
Centre Spot Clear 52mm
Centre Spot Clear 55mm
Centre Spot Clear 58mm
Centre Spot Clear 62mm

Mult Image 3x 49mm
Mult Image 3x 52mm
Mult Image 3x 55mm
Mult Image 3x 58mm
Mult Image 5x 52mm
Mult Image 5x 58mm

Colours for B&W Ground optical glass

ONE STOP

Yellow 2x 46mm
Yellow 2x 49mm
Yellow 2x 52mm
Yellow 2x 55mm
Yellow 2x 58mm
Yellow 2x 62mm
Yellow 2x 67mm
Yellow 2x 72mm
Yellow 2x 77mm
Yellow 2x 82mm
Yellow 2x 86mm

ONE STOP

Y/G 2x 49mm Yellow Green
Y/G 2x 52mm
Y/G 2x 55mm
Y/G 2x 58mm
Y/G 2x 62mm
Y/G 2x 67mm
Y/G 2x 72mm

ONE AND ONE THIRD STOP

Orange 2x 46mm
Orange 2x 49mm
Orange 2x 52mm
Orange 2x 55mm
Orange 2x 58mm
Orange 2x 62mm
Orange 2x 67mm
Orange 2x 72mm
Orange 2x 77mm
Orange 2x 82mm
Orange 2x 86mm

TWO STOPS

Green 2x 46mm
Green 2x 49mm
Green 2x 52mm
Green 2x 55mm
Green 2x 58mm
Green 2x 62mm
Green 2x 67mm
Green 2x 72mm
Green 2x 77mm
Green 2x 82mm
Green 2x 86mm

THREE STOP

Red 2x 46mm
Red 2x 49mm
Red 2x 52mm
Red 2x 55mm
Red 2x 58mm
Red 2x 62mm
Red 2x 67mm
Red 2x 72mm
Red 2x 77mm
Red 2x 82mm
Red 2x 86mm

Conversion Filters

We are unable to replace these with Japanese filters - replacements will be UK Optical resin filters



JAPANESE OPTICAL GLASS OR UK OPTICAL RESIN

80A 52mm	82B 52mm
80A 55mm	82B 55mm
80A 58mm	82B 58mm
80A 62mm	82B 62mm
80A 67mm	82B 67mm
80A 72mm	82B 72mm
80A 77mm	82B 77mm
80B 49mm	85A 49mm
80B 52mm	85A 52mm
80B 55mm	85A 55mm
80B 58mm	85A 58mm
80B 62mm	85A 62mm
80B 67mm	85A 67mm
80B 72mm	85A 72mm
80B 77mm	85A 77mm
81A 49mm	85B 49mm
81A 52mm	85B 52mm
81A 55mm	85B 55mm
81A 58mm	85B 58mm
81A 62mm	85B 62mm
81A 67mm	85B 67mm
81A 72mm	85B 72mm
81A 77mm	85B 77mm
81B 49mm	FLD 49mm
81B 52mm	FLD 52mm
81B 55mm	FLD 55mm
81B 58mm	FLD 58mm
81B 62mm	FLD 62mm
81B 67mm	FLD 67mm
81B 72mm	FLD 72mm
81B 77mm	FLD 77mm
82A 49mm	FLW 49mm
82A 52mm	FLW 52mm
82A 55mm	FLW 55mm
82A 58mm	FLW 58mm
82A 62mm	FLW 62mm
82A 67mm	FLW 67mm
82A 72mm	FLW 72mm
82A 77mm	FLW 77mm
82B 49mm	



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JON ADAMS For shooting and Photoshop queries, Jon is on hand to help solve any problems you have.



DAN MOLD With a background in photographic retail, Tech Ed Dan can advise on all aspects of camera kit.



MATTY GRAHAM Assistant Editor Matty is never seen without his D-SLR, and is brimming with shooting tips.



ANDY HEATHER Andy worked as a commercial photographer in Japan, and is overflowing with practical advice.



BUYING ADVICE

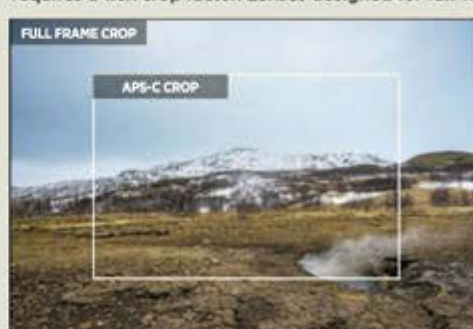
What type of D-SLR should I buy?

Q I've looked at plenty of cameras, and have decided that a D-SLR suits me best. But I'm confused as to which one I should go for, as they seem to have similar features yet range in price from a few hundred pounds to several thousand! I don't have a specific budget in mind – I just want to make sure I get the right one. Can your experts help me narrow down the choice?
Jack Foster

DAN SAYS Getting to grips with the different types of D-SLRs can be a confusing prospect. D-SLR stands for Digital Single Lens Reflex, and this type of camera offers the most comprehensive shooting system on the market. They all have interchangeable lenses, so you can fit different lenses to suit different subjects, and the lens you fit is the one you see through – via the viewfinder – to compose the scene. It's worth noting though, that lenses are specific to a particular brand, so you can't put a Canon-fit lens on a Nikon body (or vice versa). All D-SLRs offer similar exposure modes including automatic, semi-automatic and full Manual control, and all have an electronic sensor to record the pictures, though this varies in size with different models. One slight variation is Sony's D-SLT cameras, which have a translucent mirror and an electronic viewfinder. They're used just like D-SLRs though, so should be considered in the same way. We've listed most of the current crop and placed them into four categories based on budget, to help you choose.

Sensor size and crop factors explained

Sensors inside D-SLRs vary in size. Full-frame chips are the same size as a frame of 35mm film, but more affordable D-SLRs have smaller APS-C format sensors. As they're smaller, APS-C sensors are cheaper to make, and this keeps the cost down on the cameras. It also gives a cropped view of the scene, as shown in the comparison below. The APS-C crop makes lenses behave as though they have a longer focal length, and this crop factor is consistent across all lenses. On Nikon, Sony and Pentax APS-C D-SLRs you need to multiply the focal length by 1.5x, while Canon requires a 1.6x crop factor. Lenses designed for full-frame cameras will



still work on APS-C bodies, but will be more 'zoomed in' due to the smaller sensor. There's no point in using bespoke APS-C lenses on full-frame bodies, as the image cast isn't large enough to cover the chip.

Entry-level

from £259

This is the beginner end of the D-SLR market. These cameras have plenty of features to get you started, and are designed to be user-friendly. Some even include Guide modes to help you. They have slower burst modes and smaller builds than their enthusiast equivalents. Advanced entry-level models offer extra features like faster burst modes, better LCD screens or more pixels. All entry-level models currently use a cropped, APS-C sensor.

							
Camera	Canon 1200D	Sony A58	Canon 100D	Nikon D3300	Pentax K-S1	Canon 750D/760D	Pentax K-S2
Price (body only)	£259	n/a	£309	£353	£419	£599 / £649	£549
Price (with kit lens)	£319	£339	£359	£389	£439	n/a	£649
Resolution	18Mp	20.1Mp	18Mp	24.2Mp	20.1Mp	24.2Mp	20.1Mp
Sensor	APS-C	APS-C	APS-C	APS-C	APS-C	APS-C	APS-C
Burst rate	3fps	8fps	4fps	5fps	5.4fps	5fps	5.4fps
AF points	9	15	9	11	11	19	11
Monitor	3in 460k-dot	2.7in 460.8k-dot	3in 1040k-dot	3in 921k-dot	3in 921k-dot	3in 1040k-dot	3in 921k-dot

Enthusiast

from £608

You'll need a bigger budget here as the additional features and more rugged build warrants the higher asking price. This category covers a mixed bag of full-frame and APS-C D-SLRs and each has their pros and cons. Canon's 7D Mk II, for example, has a 20.2Mp APS-C sensor and shoots at 10fps, but it's £300 more than Nikon's 24.3Mp D610 which sports a full-frame sensor. This means you'll need to weigh up a fast burst rate against the image quality of a larger sensor.

							
Camera	Nikon D5500	Canon 70D	Nikon D7100	Sony A77 Mk II	Canon 6D	Nikon D610	Canon 7D Mk II
Price (body only)	£608	£749	£749	£764	£1169	£1199	£1499
Price (with kit lens)	£679	£838	£899	£1199	£1849	£1699	n/a
Resolution	24.2Mp	20.2Mp	24.1Mp	24.3Mp	20.2Mp	24.3Mp	20.2Mp
Sensor	APS-C	APS-C	APS-C	APS-C	Full frame	Full frame	APS-C
Burst rate	5fps	7fps	6fps	12fps	4.5fps	6fps	10fps
AF points	39	19	51	79	11	39	65
Monitor	3.2in 1037k-dot	3in 1040k-dot	3.2in 1229k-dot	3in 1228.8k-dot	3in 1040k-dot	3.2in 921k-dot	3in 1040k-dot

Advanced Enthusiast

from £1499

This range sits in between enthusiast and fully professional cameras. The price bracket increases from enthusiast D-SLRs, but is still considerably less than a pro D-SLR – mostly to the tune of several thousand pounds! These D-SLRs are exclusively full-frame models and have a very rugged build quality that will take a few knocks. Megapixels are abundant, with Nikon's D810 offering 36.3Mp and Canon's 5DS and 5DSR cameras, a whopping 50.6Mp! D-SLRs in this range are built for incredible detail and very high image quality, but can't match the bombproof build and burst speeds of the elite...

					
Camera	Sony A99	Nikon D750	Canon 5D Mk III	Nikon D810	Canon 5DS/R
Price (body only)	£1499	£1749	£2249	£2399	£2999 / £3199
Resolution	24.3Mp	24.3Mp	22.3Mp	36.3Mp	50.6Mp
Sensor	Full frame	Full frame	Full frame	Full frame	Full frame
Burst rate	6fps	6.5fps	6fps	7fps	5fps
AF points	102	51	61	51	61
Monitor	3in 1228.8k dot	3.2in 1229k-dot	3.2in 1040k-dot	3.2in 1229k-dot	3.2in 1040k-dot

Professional

from £4449

These are the best-made D-SLRs money can buy. They offer a superior build and are designed to be used on a daily basis, in any conditions. They come with a fixed extra grip and shutter button to make vertical shooting easier, and have larger or multiple batteries so you can shoot for longer. You'll be wondering why pro cameras have a lower pixel count, and there are three reasons. Firstly there's less data to process, so these full-frame mammoths can shoot rapid bursts. Secondly, the intended users don't need more resolution as 16 or 18Mp is plenty for newspapers and magazines. Thirdly, digital Noise is more apparent when pixels are packed tightly together on the chip. By having fewer, the pixels are larger and deliver cleaner images at higher ISO speeds.

		
Camera	Nikon D4s	Canon 1D X
Price (body only)	£4449	£4499
Resolution	16.2Mp	18.1Mp
Sensor	Full frame	Full frame
Burst rate	11fps	12fps
AF points	51	61
Monitor	3.2in 921k-dot	3.2in 1040k-dot



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Joe Cornish – Smooth Cotton 300

I aim to crystallise the endlessly varied light, colours and texture of nature in my landscape photographs. At the end of a chain of photographic processes, the print is the culmination and fulfilment of that effort, and the paper is critical to the success of the print. Fotospeed's Smooth Cotton 300 is my paper of choice.



Trevor & Faye Yerbury – Natural Soft Textured Bright White 315

As traditional darkroom printers it has taken us many years to discover the right paper for our digital images that will capture and hold all of the shadow and highlight detail we demand. Natural Soft Textured Bright White is our preferred paper.



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John Swannell – Platinum Baryta 300

As a photographer I aim to capture the spirit of my subject. While technology has changed over the years the one thing I feel remains the same is the importance of the printed image. Fotospeed's Platinum Baryta bridges the gap between the traditional darkroom papers and today's digital media. I find that whilst it is known for reproducing superb B&W images it should never be underestimated as a paper for colour work.



Charlie Waite – Platinum Etching 285

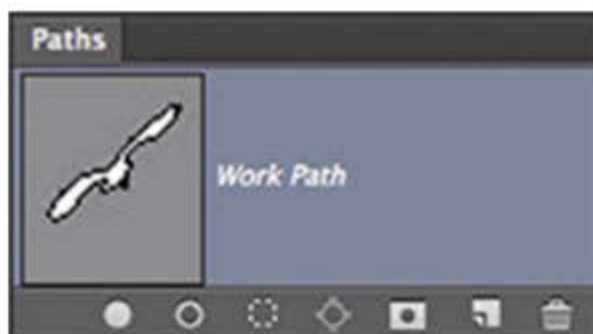
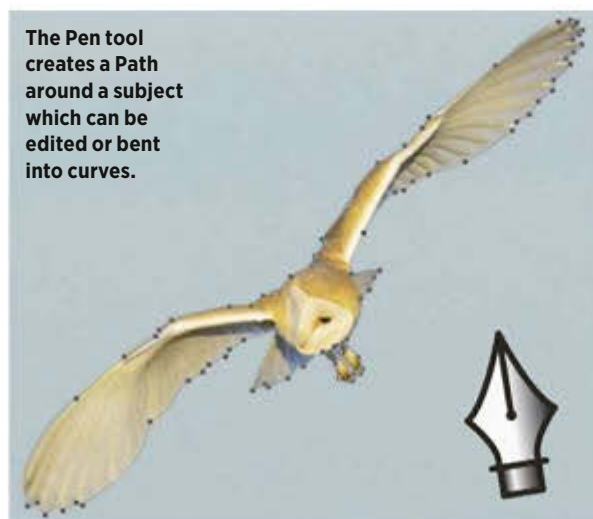
Landscape photography is much about discovery and photographers can only fully relish the rewards of their efforts when seen in the form of a print. The paper used for that print has to be as carefully considered as the image made. Discovering Fotospeed's Platinum Etching 285 has been a revelation to me and has proved a vital tool in my ongoing quest to match pre-visualisation with end result.

PHOTOSHOP

How do I use the Pen tool in Photoshop CC?

Q I've upgraded from Elements 9 to Photoshop CC, so have access to a whole new range of tools to improve my pictures. I've tried using the Pen tool which is supposedly better for making precise Selections, but I can only draw straight lines with it like the Polygonal Lasso. What am I doing wrong?
Justin Hemmings

DAN SAYS The Pen tool is an advanced Selection tool that creates a Path. This can be converted into a Selection once completed, and in use, will look like a series of Anchor points connected by straight lines. By editing the Path, you can turn these lines into Bezier curves, and you can reposition the Anchor points too. Unlike the Polygonal Lasso tool you won't accidentally finish the Path early by double-clicking, and by bending the lines, you can really speed up cut-outs.



HOW TO USE THE PEN TOOL



1 Activate the Pen tool
Click the Pen tool in the Toolbox and check that Paths is selected in the Options bar. Now zoom in tight on your subject with **Ctrl+Plus** and then hold the Spacebar down to bring up the Hand tool to drag your subject into view. Now it's time to start drawing your path, so click on any outside edge of your subject to begin.

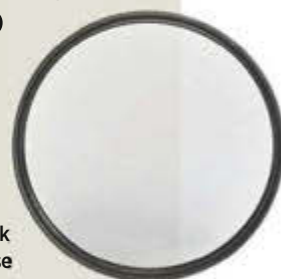


2 Draw your Path
Click your way around the subject, and before releasing the mouse button, drag the mouse a little to start creating a curve. You'll see two extra control handles appear either side of the Anchor point. If you hold **Alt**, you can drag these to alter the shape of the curve created. If your Anchor point is in the wrong place, hold **Ctrl** and you can drag it into the position you want.

KNOW-HOW

My polariser is stuck! Can you help me?

Q I love to take landscapes with my Pentax K-50 so I decided to buy a polarising filter to darken my skies. However, I've managed to get it stuck and I can't get any purchase on it as the filter ring is very narrow. The front ring which controls the polarisation is larger but moves freely. Do you have any advice?
Samuel Clarke



ANDY SAYS Polarisers are great filters and allow you to darken skies and suppress reflections. It's not ideal to get one stuck on your lens though, as they can reduce the light entering the lens by up to 3-stops. To remove one, try spacing your thumb and all your fingers evenly around the rear filter ring. Now grasp a part of the lens that doesn't move, such as the front part of the lens barrel, with your other hand. Don't twist against the focusing mechanism as you could damage your lens. For extra friction you can place an elastic band around the edge of the filter. If this doesn't work, buy a filter wrench from a camera shop (they're around £5) and you should be able to remove it as this will apply even pressure all the way around the perimeter.



3 Turn it into a Selection
When you've made it all the way around your subject, you can close the Path by clicking on the starting point. This will give you a solid line around the subject. To turn this Path into a Selection, open the Paths panel (**Window→Paths**), and click on the Work Path you've created. Now click the **Load path as Selection** icon (it looks like a dotted circle). Alternatively, right-click on the Path and choose **Make Selection**.

D-SLR SKILLS

How do I shoot a good sunset?

Q I love shooting landscapes with my Canon 700D, but I'd like to take more shots around sunrise and sunset. My pictures have been a little underwhelming so far, with the sky always looking too bright and washed out. How do I get better results at either end of the day?
Al Reese

MATTY SAYS Sunrise and sunset shots are hugely popular, but getting the warm, rich colours to record well on your sensor is often more involved than framing up and pressing the shutter button.

A common problem is that the sky's colours are either inaccurate or washed out, and this is a result of your camera's White Balance and metering system being 'fooled' by the scene.

If your camera is set to its Auto White Balance setting, it may well attempt to compensate for the overly warm, orangey-red colours, and make them appear more neutral. To prevent this, set the White Balance to the Daylight preset. This way, your shot will leave the fiery colour palette intact.

When it comes to the exposure settings, it all depends on how the scene is composed, and how your metering system interprets the information. If you focus on a foreground element (such as the building in the example on the right), then your Evaluative metering mode may bias the exposure settings towards

that. Since it's much darker than the sky, the result will be an overly bright, washed out sunset, and a well-exposed building.

The only way to get reliable results is to take full control of the settings yourself, and this means telling the camera how you want the shot to be exposed. To do this, use Aperture priority mode (Av), and select your Spot meter. Place the active AF point over a

midtone in the sky and press the * button with your thumb to lock the exposure. Reframe and shoot, then check the screen. If the sky's too bright, spot-meter from a slightly brighter sky area, lock the settings with * and repeat. If it's too dark, spot meter from a slightly darker area in the same way. In all cases, shoot in RAW format, as this lets you further refine your pic in software.

Getting colourful, well exposed sunsets requires some careful work with your metering system if you're to produce consistent and reliable results.



MATTY GRIMMAN

KNOW-HOW

Why do I get shake on a tripod?

Q Whenever I use my Nikon D7100 and 18-105mm VR lens on a tripod I always seem to get some camera shake on my shots. I have a good quality Manfrotto tripod, so don't understand why this happens?
Steve Watson

JON SAYS Camera shake can be identified by a uniform softness over the entire frame, or a ghosted/double edge around fine detail. It occurs because the camera is moving while the shutter is open. It can be caused by vibration, and the problem is exacerbated by lenses that magnify, like telephoto or macro optics.

The cure for shake is to ensure the camera is still at the moment of exposure. This is achieved by using a faster shutter speed to freeze any movement, or using a tripod to deny the possibility of any occurring.

If you're certain your shots are suffering from shake and it's happening when using a quality tripod, then

there are three likely culprits. The first is your VR system. Both camera and lens-based stabilisation systems actively seek movement to counteract, and if none is detected, they can get caught in a feedback loop and introduce their own. Switch off VR, and you may well be back to sharp shots immediately.

Another thing that's essential for slower shutter speeds is to use a remote shutter release or your Self-timer mode. It's easy to vibrate a camera on a tripod with hand movement, and this can be transferred to your shots when pressing the button.

The last thing to watch is 'mirror slap'. The mirror inside a D-SLR moves up out of the way when the exposure is taken, and this movement can create vibrations. It's usually only seen in macro or telephoto shots, but your D7100 has a Mirror Up (MU) mode. When using it, the first shutter press clears the mirror, and the second takes the pic. Make sure you reset it after use, or you'll find you're missing every other shot!



Tripod ticklist:

- ☒ Switch image stabilisation off
- ☒ Use a remote release or Self-timer
- ☒ Use Mirror Up for macro

KNOW-HOW

What's up with my Live View?

Q In addition to taking photos, I record short movies on my Nikon D3300. I think I know the basics of photography, and shoot in Aperture priority mode so that I can change the depth-of-field. When I go into the Live View mode to shoot video I can change the aperture value, but the depth-of-field seems to stay the same?

David Watts

■ ANDY SAYS Several entry-level Nikon D-SLRs don't have the motor required to change the aperture while using the Live View mode. This includes the D3300, D5300, D5500 and even the full-frame D610. When taking pictures in Live View on all of these cameras, the aperture adjusts just before taking the

shot so your image will have the correct depth-of-field. But for video, your aperture will be fixed at the aperture it was set to before activating Live View mode. There is a workaround you can use to change the aperture, however. Come out of Live View, set the aperture and then

re-enter the Live View mode again to see the correct depth-of-field.

It's unlikely you'll want to change aperture in the middle of recording your movie clip, but if you do need to do this, you can attach a variable ND filter and use this to adjust the exposure.

Live View is a fantastic tool for composing and recording movies, but some Nikon D-SLRs lock the aperture when it is enabled.



KNOW-HOW

Is my Swiss Army Knife legal?

Q My Swiss Army Knife lives in my camera bag and is indispensable for tightening tripod head screws and attaching quick release plates. But a friend told me mine is illegal, and I could be arrested for carrying it. I actually bought it from a camera shop, so is this true?

Bill Jenkins

■ JON SAYS With Swiss Army Knives (or SAKs), it depends on which one you have. The law states that it's fine to carry a folding knife with a blade under 3in for everyday use, so original SAKs with handles 91mm long or the mini varieties with 58mm handles won't cause any problems. If you have a larger SAK with a blade longer than 3in or with a locking mechanism, however, then you'd have to provide a good reason for carrying it if challenged by a police officer. This 'good reason' would need to satisfy the officer concerned, and would be judged at his or her discretion.

Under the eyes of the law, locking knives or folders over 3in are seen in the same way as fixed-blade knives. This groups larger/locking SAKs with chef's knives, survival knives and machetes. While these are perfectly legal to sell or to own, you can't carry one in a public place unless you have a good reason to do so. You can't keep one in your car's glove box either, as under the law, your car is seen as a public place.

Many photographers carry SAKs or similar multi-tools for everyday use, but we'd advise you only carry

non-locking types with blades under 3in unless you have a genuine and specific need for something else, and could happily justify your possession of it.

If a police officer doesn't accept your reason as a good one, you could be arrested for carrying an offensive weapon. If the court doesn't subsequently accept your reason either, you could face a £5000 fine and up to four years in prison. It's not worth taking the risk over tightening a quick release plate, so if you have an SAK model similar to the one shown below, remove it from your camera bag and leave it at home!



Pocket knives are handy tools for photographers. But models with locking blades (seen above) aren't legal to carry in public without a good reason, so check yours before throwing it in your camera bag.

Can I shoot macro on my D-SLR?

Q My compact seems to focus closer for macro shots compared to my Canon 1200D D-SLR. Is this normal?

John Studderidge

■ MATTY SAYS The 18-55mm kit lens that comes with most D-SLRs is restricted when it comes to macro. Many can only produce a maximum reproduction ratio of around 1:3 – 1/3rd lifesize. For true macro you'll need a dedicated macro lens as these offer a lifesize maximum reproduction ratio of 1:1. This means your subject can be captured at the same size as if it was laid directly across your camera's sensor. The 1200D has a Close-up mode but this cannot focus the lens closer unless a macro lens is attached – all it does is set your exposure.



MATTY GRAHAM

What does Tilt-Shift mean?

Q There's a Tilt-Shift mode on my compact camera, but what does this mean?

Chris Noel

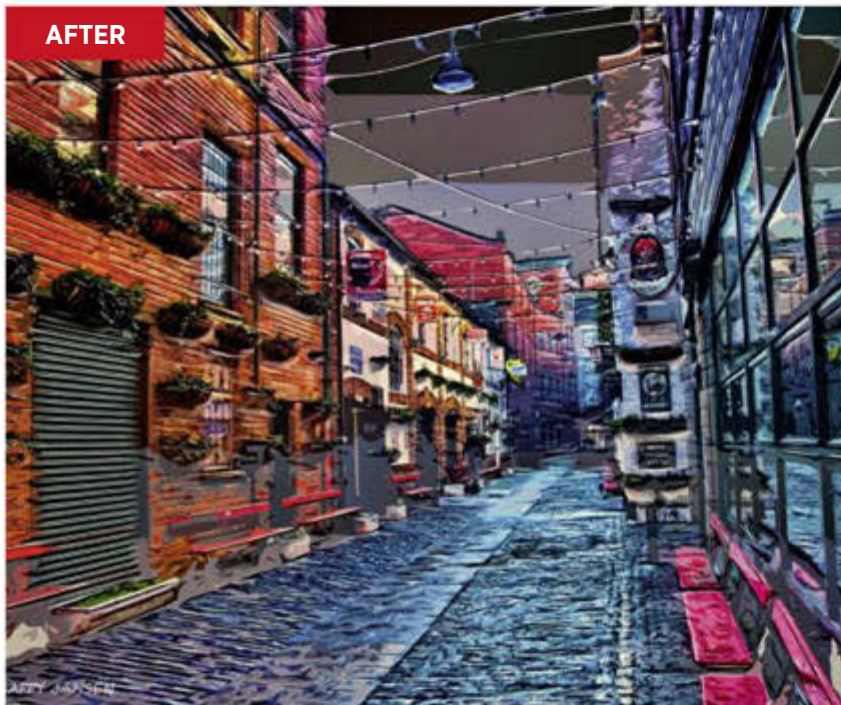
■ JON SAYS Tilt-Shift refers to a type of lens which literally tilts and shifts up and down on the vertical and horizontal axis. This allows the perspective to be controlled. They're particularly useful for architecture as you can get perfectly straight buildings. They can be used to distort perspective too, shifting the zone of sharp focus to make your scenes look like tiny models. This is the effect built into some compact cameras. Real tilt-shift lenses are hugely expensive with Nikon's 24mm f/3.5 ED PC-E lens costing £1465! Turn to page 72 to see how can give your pics a tilt-shift effect in Photoshop.



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AFTER



BEFORE



Brent's original street scene was shot at 1/80sec with an aperture of f/8 and an ISO of 400.

▲ STREETS OF BELFAST

by Brent Jansen



From: Lisburn, Northern Ireland

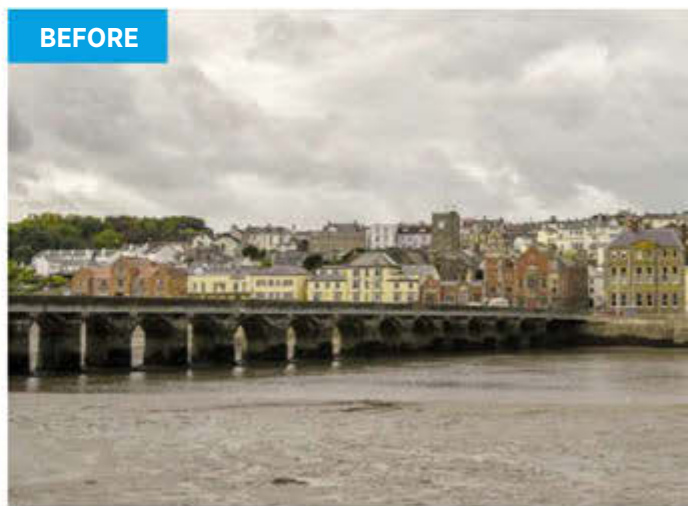
Tell us about your image: I took this shot in Belfast early one morning with my Nikon D7100 and 18-105mm kit lens. The contrast between the buildings, street and glass made it an ideal subject for trying out the 'Turn pics into paintings - fast!' technique from the January 2015 issue. First I duplicated the Background Layer twice to create the top and middle Layer. I added the Cutout filter from the Filter Gallery to the top and Background Layers, and Bas Relief filter to the Middle Layer. I played with the settings for the different filters before deciding on the punchy end result.

AFTER

Karen gave the seafront at Bideford a striking new look by turning her shot into a photo planet.



BEFORE





▲ PLANET BIDEFORD by Karen Tillett



From: Southam, Warwickshire
Tell us about your image: This is Bideford in Devon, but with a twist! The town houses are

banked up on a hill all along the quayside, so the scene made for a great subject for the 'Spin wide views into photo planets' technique in the April 2015 issue. I took the shot with my Nikon D800 and 28-300mm lens. Following the step-by-step, I turned my image upside-down, made it into a square format and then applied the Polar Coordinates filter, before pasting my planet onto a new bright sky.



Our photo planet technique inspired Karen into action!



▶ LIGHTNING AT DUNNOTTAR CASTLE

by Andrew Dalgarno



From: Westhill, Aberdeenshire

Tell us about your image: Dunnottar Castle in Aberdeenshire is one of Britain's most stunning medieval fortresses. I took this shot with my Nikon D5200 and 17-70mm lens and then applied techniques from three different issues of *Digital Photo*.

First I produced a single HDR image from three RAW files using the 'Get a natural blend' tutorial and the free Photomatrix software from the November 2014 issue. I then cloned out some tourists and converted the scene to black & white using Elements. I made sure I retained detail in the sky and darker areas, following the advice from the September 2014 mag. Finally I added a digital lightning bolt using the technique from the January 2015 issue to give the scene some extra drama!



▶ BEST OF BRITISH

by Keith Boothby

From: Wrexham, Wales

Tell us about your image: Inspired by the 'Home is where the art is' feature in the March 2015 issue, I shot this image of a 1:24 scale MGB sports car model with my Nikon D5200. The background is a Union Flag cushion. Then using the 'Make art that glows' technique for guidance, I added the light trails by painting the shapes with a small torch during some 10secs exposure, with my camera on a tripod. I then combined the images using Layers.



Keith used the painting with light technique on a model car shot.



▶ BY THE LIGHT OF THE MOON

by Peter Fowles



From: Stevenage, Hertfordshire

Tell us about your image: My moonlit stag was inspired by the 'Sunset silhouette' technique in the March 2015 issue. I'd never tried drawing on an image before, so I followed the step-by-step, but used my own sky picture and added a moon instead of the starburst sun. I first had to adapt my sky image, by flipping it horizontally and cloning out some trees. I then used Levels and Hue/Saturation to create the look of a moody night sky. I added the moon on a separate Layer, before adding the stag and painting in the mountains.



Peter took our sunset technique in a new direction with a moonlit scene.



AFTER

Tom softened his portrait shot and added the bokeh background from the April 2015 issue to get a beautiful, dreamy effect.



▲ KADIE by Tom Maxwell



From: Corby, Northamptonshire
Tell us about your image: Initially, when I took this shot of Kadie with my Nikon D600 and 24-70mm

lens, I was only looking to create a beautiful natural portrait. Then I saw the 'Create a dreamy soft-focus look' tutorial in the April 2015 issue, and although the technique was applied to a landscape shot in the magazine, I thought the bokeh effect would really soften a portrait and add an enchanting look.

I combined my image with the bokeh effect, softened it with Gaussian Blur and desaturated the subject slightly so that the grey tones brought all the different elements together.

I thought the bokeh effect would soften a portrait and add an enchanting look



Tom applied a *Digital Photo* landscape technique to a portrait to create a fantastic, dreamy effect.

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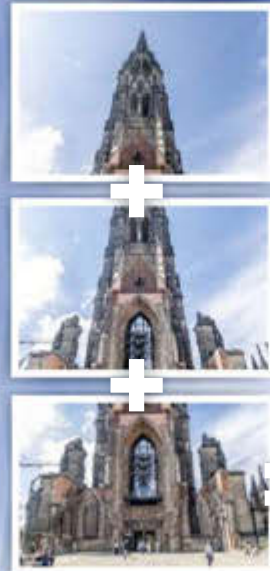
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Full test of Nikon's
latest 24Mp **D7200**
D-SLR [p128](#)



ULTRA WIDE-ANGLE ZOOM LENSES FROM £245

Four wide zooms for APS-C D-SLRs do battle [p118](#)



PREMIUM RANGEFINDER-STYLE COMPACT

Fujifilm X100T on test [p132](#)



A5100 NAMED BEST ENTRY-LEVEL CSC

Sony takes TIPA award [p117](#)



TIPA ADVANCED D-SLR ANNOUNCED

Pentax wins 'advanced' title [p117](#)



SAMSUNG SCOOPS PRO CSC TITLE

TIPA jury awards NX1 [p116](#)



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Technical editor Dan Mold oversees rigorous tests in the field and the studio, and after years advising on gear and technique in photographic retail has an unrivalled eye for what photographers want. All reviews are thorough, unbiased and objective.



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TIPA AWARDS 2015

AWARD-WINNING PHOTOGRAPHY KIT

THE TECHNICAL IMAGE PRESS ASSOCIATION (TIPA) is made up of 28 specialist photography magazines from across five continents, and includes the UK's best photo mag, *Digital Photo* and its sister title, *Practical Photography*. The Association gets together every year to select the best photography products released over the previous 12 months, and presents each with a prestigious TIPA award. This year's congress took place on March 20-22 in Dubai, in the United Arab Emirates, and the 2015 winners were selected by the leading editors from across the photo world. Take a look at the TIPA winners below and for a complete list of all this year's winners make sure you visit the website at www.tipa.com



► Photo magazine editors from around the world gathered in Dubai, UAE, to vote on this year's TIPA awards.



BEST ENTRY-LEVEL D-SLR

Nikon D5500

Offering easy access to all the benefits of D-SLR photography to first-time users, the D5500 is a lightweight and compact APS-C format camera with a 24.2MP CMOS sensor. It can deliver a maximum burst rate of 5 frames per second and shoots Full HD video, too. ISO sensitivity ranges from 100 to 25,600, and it's the first Nikon D-SLR with a vari-angle touchscreen. Using Nikon's wireless app, you can connect the camera and use it remotely via a smartphone or tablet. For capturing action, the top shutter speed is a rapid 1/4000sec. ► www.nikon.co.uk

BEST ADVANCED D-SLR

Pentax K-S2

The K-S2 features a 20MP sensor without a low pass filter. It has a weather-resistant body, an optical viewfinder with 100% coverage and is the first Pentax D-SLR with a vari-angle LCD screen. The compact body incorporates a Shake Reduction system to combat camera shake and the K-S2 delivers a top shutter speed of 1/6000sec. Creative functions include multi-exposure, interval shooting, an advanced HDR mode, Full HD video, and built-in Wi-Fi with a dedicated app to shoot remotely or transfer images. ► www.pentax.co.uk



BEST EXPERT D-SLR

Canon EOS 7D Mark II

The 20.2Mp APS-C sensor in the 7D Mark II sits in a weather-sealed magnesium alloy body along with dual DIGIC 6 processors. The camera features a 10fps shooting rate, a 65-point AF system, and 100% viewfinder coverage. Advanced features include HDR and multi-exposure modes, and an intervalometer for time lapse capture. The camera sports dual card slots for both SD and CF formats, and to support its extensive Full HD video functions there's Dual Pixel CMOS AF, stereo microphone and headphone jack ports. ► www.canon.co.uk



BEST ADVANCED CSC

Panasonic Lumix GM5

Measuring just 98.5x59.5x36.1mm and weighing only 211g, the GM5 is a very compact and highly portable Micro Four-Thirds CSC. The camera's Live View finder has 100% coverage and its sensor boasts a resolution of 16Mp. For connectivity, the user can simply scan the QR code displayed on the camera monitor with a smartphone and use it as a remote controller. The camera delivers JPEG and RAW stills alongside Full HD video, and offers an ISO range of 200-25,600. The impressive shutter speed range goes from 60secs to an incredible 1/16,000sec. ► www.panasonic.co.uk

BEST PROFESSIONAL CSC

Samsung NX1

Built for speed and responsiveness, the NX1 has a 28.2Mp APS-C sensor and a DRiMe V processor that drives both 4K video and an amazing still image shooting rate of 15fps. A 3in tilting touch-screen monitor is ably supported by a high resolution 2360K-dot electronic viewfinder. The camera has an ISO range of 100-25,600 which can be further extended to 51,200 and the hybrid AF system combines phase and contrast detection and covers almost the entire screen. There are a host of video options built in, and the NX1 can capture up to 120fps at Full HD resolution. Connectivity is via Wi-Fi, NFC and Bluetooth, and Samsung's free Camera Manager app allows remote control operation via smartphone. ► www.samsung.com/uk



BEST PROFESSIONAL D-SLR

Nikon D810

The full-frame D810 offers 36.3Mp and a top shooting rate of 5fps. Its ISO range of 64-12,800 is expandable to 32-51,200, and it offers broadcast-quality, Full HD video. Nikon's 3D Color Matrix Meter III provides balanced exposures even under difficult lighting. It also has dual card slots for both SD and CF formats. ► www.nikon.co.uk



BEST EXPERT CSC

Olympus OM-D E-M5 II

Housed in a dust, splash and freeze-proof magnesium alloy body, the 16.1Mp sensor and TruePic VII processor of the E-M5 Mark II delivers a wide array of creative options. The camera sports a 2.36M-dot electronic viewfinder and a 3in touchscreen LCD. Its Fast AF system boasts an 81-point area, with excellent low-light performance to match the camera's 10fps frame rate.

► www.olympus.co.uk



BEST ENTRY-LEVEL CSC

Sony Alpha 5100

Dubbed a 'super compact' CSC, the A5100 offers a 24Mp APS-C sensor. The camera delivers a very rapid AF acquisition time of 0.07sec, with continuous shooting at 6fps. The impressive AF tracking is aided by the 179-point AF sensor, and the A5100 boasts an impressive ISO range of 100-25,600. It's compatible with Sony E-mount lenses, and A-mount optics with an optional adapter. ► www.sony.co.uk



BEST PREMIUM CAMERA

Fujifilm X100T

The 16.3Mp APS-C X-Trans CMOS II sensor and EXR processor at the heart of the X100T makes this compact, fixed-lens camera highly capable. It sports the retro looks of a classic rangefinder, yet is bristling with up-to-date technology from the Advanced Hybrid Viewfinder to the top shutter speed of 1/32,000sec. Seven customisable Fn buttons, Full HD video and built-in Wi-Fi make it a true object of desire.

► www.fujifilm.eu/uk



THE BEST LENSES OF 2015

BEST ENTRY-LEVEL D-SLR LENS

Sigma 18-300mm

For D-SLRs with APS-C sensors the Sigma 18-300mm can do it all! It offers a film-equivalent zoom range of 27-450mm and an Optical Stabilization system, yet manages to fit this into a unit just 101.5mm long that weighs only 585g, making it a highly portable superzoom lens.

► www.sigma-imaging-uk.com



BEST EXPERT D-SLR ZOOM LENS

Canon 100-400mm II USM

Designed for full-frame Canon cameras, the 100-400mm incorporates a 4-stop Image Stabilizer and a fast, near-silent AF motor.

A nine-bladed circular aperture delivers smooth bokeh and the rear focusing design, with a floating element, enhances AF speed. ► www.canon.co.uk



BEST PRO D-SLR PRIME LENS

Sigma 24mm F/1.4

Combining an ultra-fast maximum aperture with a wide angle of view, the 24mm f/1.4 is designed for full-frame sensors. It contains FLD and SLD glass elements to minimise chromatic aberration, and offers a new full-time manual focus mechanism – even when AF mode is selected. ► www.sigma-imaging-uk.com



BEST ENTRY-LEVEL CSC LENS

Tamron 14-150mm

CSC cameras promise a lighter, more portable experience and Tamron has created a lens to match. Delivering a film-equivalent range of 28-300mm, the lens weighs a mere 285g and is just 80.4mm long. With an internal focusing system and top quality glass elements, the 14-150mm offers the ideal travel lens for weight-conscious photographers. ► www.tamron.co.uk



OTHER OUTSTANDING PHOTO KIT FROM THE 2015 TIPA AWARDS



There are 40 TIPA award-winning photo products in total, and here are the rest.

■ **Best Easy Compact Camera:**
Canon IXUS 160/165/170

■ **Best Rugged Camera:**
Panasonic Lumix DMC-FT6

■ **Best Expert Compact Camera:** Fujifilm FinePix X30

■ **Best Medium Format Camera:**
Pentax 645Z

■ **Best Superzoom Camera:**
Nikon Coolpix P610

■ **Best Pro D-SLR Lens:**
Canon EF 11-24mm f/4L USM

■ **Best CSC Prime Lens:**
Zeiss Loxia Line

■ **Best CSC Expert Zoom Lens:**
Fujinon XF 16-55mm f/2.8 R LM VR

■ **Best Photo Printer:**
Epson SureColor P600

■ **Best Inkjet Photo Paper:**
Canson Infinity Photo Lustre Premium RC-310

■ **Best Photo Projector:**
Epson EH-L510000

■ **Best Photo Scanner:**
Epson Perfection V850 Pro

■ **Best Imaging Software:**
PhaseOne CaptureOne Pro 8

■ **Best Accessory:**
UniqBall Ball Head

■ **Best Tripod:**
Manfrotto BeFree Carbon Series

■ **Best Storage Media:**
EyeFi MobiPro SD Card

■ **Best Photo/Video Camera Expert:** Panasonic Lumix LX100

■ **Best Photo/Video Camera Professional:** Sony Alpha A7S

■ **Best Mobile Imaging Device:**
Sony ILCE-QX1

■ **Best Pro Lighting System:**
Profoto B2 Off-Camera Flash

■ **Best Portable Flash:**
Nissin Air System

■ **Best Photo Monitor:**
LG Digital Cinema 4K 31MU97Z

■ **Best Photo Bag:** Think Tank Airport International LE Classic

■ **Best Photo Service:**
Zenfolio

■ **Best Action Camera:**
Ricoh WG-M1

■ **Best Imaging Innovation:**
Lytro Illum

■ **Best Design:**
Leica T (Typ 701)

For more insight on all this year's winners, visit www.tipa.com

WIDE-ANGLES FOR APS-C D-SLRs

GO WIDE FOR LESS THAN £400

An ultra wide-angle lens lets you pack broad vistas into your shots. We assess four popular models starting at just £245

TEST BY DAN MOLD

Sigma 10-20mm f/4-5.6 EX DC HSM £345

Tamron 10-24mm f/3.5-4.5 Di II LD SP IF £359

THE MOST IMPORTANT THING TO consider with a new lens is the creative potential it offers. One optic everyone should own is an ultra wide-angle zoom, as it will allow you to get more of the scene into the frame. Of course, you can do this by physically moving back, but this isn't always practical or possible. Plus, simply moving back doesn't allow you to exaggerate the perspective seen when a foreground subject is really close to the lens – a great benefit of using wide lenses.

But splashing out on a lens that allows you to see the world in a different way isn't something to be taken lightly, so we've picked four models each with a street price under £400. These shoot as wide as 10mm and are tailor-made for APS-C D-SLRs. This makes them ideal for entry-level D-SLRs, but you'll need to account for their crop factor. The lenses here all behave as though they

have a longer focal length when compared to a full-frame camera, and have an equivalent range of around 15-30mm.

Many own-brand models were just too expensive to slip under our budget ceiling for inclusion in this test, and the same went for the full-frame wide-angle zooms which can cost close to £1000.

When it comes to using wide-angles, framing up isn't without its challenges. It's important to be disciplined with composition, as it's easy to reduce the impact of distant subjects. Similarly, you need to take care with the angle you shoot at, as if you tilt up or down, vertical lines will converge dramatically. Unlike fisheye lenses, which bend straight lines into curves, the lenses here are corrected for distortion, and give normal-looking shots. This makes them really versatile in use, and therefore a valuable addition to your camera bag.

How we did the test

With the wide-angles mounted on APS-C D-SLRs, we took them into the great outdoors for a thorough workout. We tested the autofocus speed and recorded short videos to see if the AF noise was picked up by our camera's built-in microphone. The build quality was checked and we also assessed the image quality before weighing up the performance against the street price.





Canon 10-18mm
f/4.5-5.6 IS STM £245

Sigma 10-20mm f/3.5
EX DC HSM £389

WHAT TO LOOK FOR

FILTER THREAD

Check the filter thread to see which filters you currently own will fit. Square filters require a special filter holder when used on a wide-angle lens as standard ones can cause vignetting.

ZOOM & FOCUS RINGS

These should turn smoothly with a firm action for the best accuracy.



LENS MOUNT

The lenses on test are available to fit different camera mounts so check to make sure it fits your D-SLR before buying. Lens mounts differ between plastic and metal, with the latter being the more durable over time.

AF MOTOR

The AF motor inside a lens dictates how fast it can find focus, how smoothly it does it and how loud the AF is, too.

The autofocus performance of Canon's 10-18mm is nothing short of excellent – its Stepping Motor rockets into action



The Canon 10-18mm offers a focusing selector switch plus an Image Stabilizer on the barrel.



CANON 10-18MM f/4.5-5.6 IS STM £245

TAKING A WIDER VIEW THAN THE 18MM end of a kit lens, the 10-18mm f/4.5-5.6 is exclusively available to fit Canon EOS D-SLRs with an APS-C sensor. Its street price of £245 makes it the most affordable on test. If you own a Canon 1200D, 700D or similar APS-C body it's certainly worth a look, and gives a film equivalent of 16-29mm when attached.

Autofocus performance was nothing short of excellent. Half-pressing the shutter to focus rocketed its Stepping Motor (STM) into action – tracking down our subjects in a heartbeat. It was slow in comparison using our 1200D's Live View mode, but this was the performance of the 1200D's contrast detect AF, and would have performed better on a Canon body with Dual Pixel CMOS AF such as the 70D. Operating noise was non-existent too – we couldn't hear it working! It was the only lens that remained silent when focusing with no audible whir in our movie clips. The 10-18mm also beats its rivals for close focusing. It focuses 2cm closer than all others on test, with a minimum focus distance of just 22cm.

It's affordable and has an extensive list of features, so what's the catch? Well, its build

is on par with a kit lens and it offers the only plastic mount on test. But, though it may be less durable over time, it's by far the lightest lens on test, weighing a mere 233g. It's also a real space-saver in your camera bag with dimensions of 74.6x72mm.

On the side of the lens you'll find its AF/MF and Image Stabilisation switches. These sit a little high up the barrel and could benefit from being a touch more pronounced to make them easier to find by feel. The need for stabilisation on an ultra wide-angle is debatable as shake is less apparent with wider focal lengths. That aside, the 10-18mm has a 4-stop IS system which will help in low-light conditions.

One quailm is the lack of extras. It's the only lens here not to come with a lens hood. Unlike the others, which all include a hood as standard, Canon's EW-73C costs £24.

The widest aperture offered is fairly slow compared to its rivals. At 10mm the 10-18mm opens to f/4.5, which is two-thirds of a stop slower than Sigma's 10-20mm f/3.5 and Tamron's 10-24mm f/3.5-4.5. At its maximum zoom, the aperture is reduced to f/5.6, and that's more than a full stop slower than Sigma's 10-20mm f/3.5.

DIGITAL Photo THE RATINGS

Pros: Rapid & silent AF, portable, light, image stabilisation, minimum focus
Cons: No lens hood, plastic lens mount, maximum aperture of f/4.5-5.6

Features and build	★★★★★
Performance	★★★★★
Image Quality	★★★★★
Value for money	★★★★★
Overall verdict	★★★★★

Quickspec

Street price: £245
Lens mounts: Canon EF-S
Maximum aperture: f/4.5-5.6
Minimum aperture: f/22-29
Minimum focus distance: 22cm
Filter thread size: 67mm
Dimensions: 74.6x72mm
Weight: 233g
Visit: www.canon.co.uk

Sigma's 10-20mm f/3.5 gets top marks for features & build, offering a constant f/3.5 aperture at both ends of the zoom



Sporting a durable metal mount, the Sigma 10-20mm f/3.5 offers a constant aperture.



SIGMA 10-20MM f/3.5 EX DC HSM £389

AT £389, SIGMA'S 10-20MM f/3.5 will do the most damage to your wallet. However, its high price is justified by a constant aperture of f/3.5, which is upheld at both ends of the zoom. This fast aperture is a feature to take note of because it allows you to shoot with faster shutter speeds, and it's one the other lenses here can't match.

The 10-20mm f/3.5 is available to fit a whole host of APS-C D-SLRs. It has a film equivalent of 15-25mm on Nikon, Pentax and Sony APS-C bodies, and 16-32mm on Canon models. It's also available for Sigma's own D-SLRs, where it becomes a 17-34mm lens with the 1.7x sensor crop.

A Hypersonic Motor (HSM) is built in to drive the AF, and the focusing performance matched its variable-aperture sibling. The AF itself was fluid and nippy enough, though took a fraction longer than the Canon 10-18mm with its Stepping Motor. We also noted a slight hum from the AF system. It was by no means loud, but was enough to be picked up in quiet video recordings.

Moving on to the build, the 10-20mm f/3.5 takes on a more stocky appearance compared to the less expensive Sigma

model. It's the largest lens on test with dimensions of 87.3x88.2mm, and it's the heaviest too, weighing just over half a kilo. Despite its sizeable barrel, the focusing and zoom rings are quite narrow and slender. That said, they protrude out from the lens and this makes them easy to find by feel when looking through the viewfinder. Both rings have been well-crafted. They're grippy and rigid so fine adjustments can be made accurately when focusing from 24cm to infinity. In the middle of the two rings sits a focus distance window so you can see exactly where your focus point lies.

There's a chunky AF/MF switch on the side which has a positive action. This also juts out, making it easy to find when composing, and the pronounced switch is handy for locking focus when you're in a hurry.

Sigma has been making this popular lens for over five years, however its lens cap and hood has recently been redesigned. The lens cap is now too big to fit onto the filter thread itself – instead you need to mount the lens hood on backwards and clip it into this. This slowed down proceedings when packing it away, but it's a minor gripe with an otherwise excellent lens.

DIGITAL PHOTO THE RATINGS

Pros: Fast constant f/3.5 aperture, solid but heavy build
Cons: Expensive, lens cap design slowed use, AF is a little slow and audible

Features and build	★★★★★
Performance	★★★★★
Image Quality	★★★★★
Value for money	★★★★★
Overall verdict	★★★★★

Quickspec

Street price: £389
Mounts: Canon EF-S, Nikon F, Pentax K, Sigma, Sony A
Maximum aperture: f/3.5
Minimum aperture: 1/22
Minimum focus distance: 24cm
Filter thread size: 82mm
Dimensions: 87.3x88.2mm
Weight: 520g
Visit: www.sigma-imaging-uk.com

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58mm £17.00	55mm £23.00
62mm £17.50	58mm £24.50
67mm £18.00	62mm £26.00
72mm £19.00	67mm £27.00
77mm £21.00	72mm £28.00
82mm £26.00	77mm £30.00
86mm £33.50	82mm £35.00

Sizes: 25 to 86mm



SRB's ND1000 wins Best Value in Photo Plus's Big Stopper Group Test



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67mm £22.95	67mm £14.95
72mm £24.95	72mm £15.95
77mm £29.95	77mm £17.95
82mm £39.95	82mm £19.95

Sizes: 28 to 105mm

Sizes: 25 to 105mm

ND Filters

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52mm £18.00	52mm £18.00
55mm £19.00	55mm £19.00
58mm £20.00	58mm £19.50
62mm £21.00	62mm £20.00
67mm £23.00	67mm £21.00
72mm £26.00	72mm £21.50
77mm £28.00	77mm £22.50
82mm £31.00	82mm £24.50

Sizes: 27 to 82mm

Sizes: 40.5 to 82mm

ND & ND Grad Filters listed in AP's Top 10 Landscape Accessories
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Set contains 4 lenses

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"Image quality is impressive with a whopping +17 dioptries magnification. An absolute steal at that price!!"



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0.9 ND Glass Pro	£29.95



Awarded 5 stars from Build & Image Quality, and Value for Money
Digital Photo April 2014



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Available in Full, Soft & Hard

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0.9 Full ND	£13.50
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0.6 Soft ND Grad	£13.50
0.9 Soft ND Grad	£13.50
1.2 Soft ND Grad	£15.95
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0.6 Hard ND Grad	£13.50
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39mm	49-52	67mm	58-82
40mm	49	72mm	86-105
40.5mm	37-58	77mm	58-105
43mm	37-72	82mm	72-105
43.5mm	46-58	86mm	72-105
46mm	37-62	93mm	82
48mm	46-58	95mm	82-105
49mm	37-77	105mm	86-95
52mm	46-77		

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Canon EOS	to Con/Yash	£24.95
Canon EOS	to Leica R	£22.95
Canon EOS	to Leica M	£24.95
Canon EOS	to Canon FD	£44.95
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Canon EOS-M	to Leica M	£29.95
Canon EOS-M	to Nikon	£29.95
Canon EOS-M	to Canon FD	£29.95
Canon EOS-M	to C Mount	£29.95
Canon EOS-M	to M39	£29.95
Canon EOS-M	to M42	£29.95
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Fuji X	to Nikon	£29.95
Fuji X	to Canon EOS	£29.95
Fuji X	to Olympus OM	£29.95
Fuji X	to 4/3	£29.95
Fuji X	to Canon FD	£29.95
Fuji X	to Con/Yash	£29.95
Nikon	to M42	£24.95
Nikon	to Canon FD	£44.95
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Nikon 1	to M42	£24.95
Nikon 1	to M39	£22.95
Nikon 1	to Nikon	£29.95
Nikon 1	to Canon EOS	£44.95
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Nikon 1	to Leica M	£39.95
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Pentax	to Canon FD	£44.95
Sony Alpha	to M42	£15.95
Sony Alpha	to Minolta MD	£44.95
Sony Alpha	to Nikon	£44.95
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Sony NEX	to Canon FD	£42.95
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Sizes: 27 to 82mm

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Sizes: 49 to 77mm

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AF was impressive – the 10-20mm f/4.5-5.6 hunted down our subjects with only a fractional delay



Though compact in size, the solid build of Sigma's 10-20mm f/4-5.6 weighs 484g.



SIGMA 10-20MM f/4-5.6 EX DC HSM £345

THIS IS THE MORE AFFORDABLE of the two Sigma lenses on test and they both share the same focal range of 10-20mm. Unlike its premium sibling, this model has a variable aperture of f/4-5.6, so the widest aperture setting becomes more restricted as you zoom in. But with a street price of £345, the £44 saving over the f/3.5 version isn't to be sniffed at. Adding to the value is the lens hood and soft pouch included in the box.

As a third-party lens, it's available to fit Nikon, Pentax and Sony APS-C bodies where it gives a film equivalent range of 15-25mm. On Canon APS-C models, it produces an equivalent of 16-32mm, and on Sigma's own D-SLRs, it offers a 17-34mm range.

Autofocusing was impressive. Its Hypersonic Motor (HSM) hunted down our subjects with only a fractional delay. There was a slight hum when focusing which was audible in our videos. The 10-20mm f/4-5.6 matches the premium Sigma and Tamron models for close focusing, with a minimum focus distance of 24mm. This was beaten by Canon's 10-18mm which could focus right down to 22cm from the film plane.

Sigma's f/3.5 model is quite a sizeable lens,

but this variable aperture version is a different story. It feels just as solidly built as its sibling, but it's more stout with dimensions of 83.5x81mm. On the length, it's the next size up from Canon's petite 10-18mm so is nice and compact. It's not particularly light in weight though, and was one of the heavier models here. At 484g, it may not be for everyone as it can unbalance some lighter, entry-level D-SLRs, but its solidity does place it firmly in your hand.

The grippy zoom and focusing rings help to cement there, too. The zoom ring is a little narrower than the one found on Tamron's 10-24mm, but it turns with a smooth action. The focus ring was an improvement on Tamron's because it's stiff, positive action made it easier to fine-tune the focus manually. There's also a focus distance window which sits in-between the rings.

One niggle is that the Nikon version misses out on an AF/MF switch. This makes manual focusing tricky, as many entry-level Nikon bodies no longer feature a focusing switch.

The burning question is, should you buy this over the more expensive f/3.5 version? Well, with only £44 separating the two, the f/3.5 model is much more versatile.

THE RATINGS

Pros: Solid build, good performance
Cons: No AF/MF switch on Nikon model, AF noise audible in movies

Features and build	★★★★☆
Performance	★★★★☆
Image Quality	★★★★★
Value for money	★★★★☆
Overall verdict	★★★★☆

Quickspec

Street price: £345
Mounts: Canon EF-S, Nikon F, Pentax K, Sigma, Sony A
Maximum aperture: f/4-5.6
Minimum aperture: f/22-32
Minimum focus distance: 24cm
Filter thread size: 77mm
Dimensions: 83.5x81mm
Weight: 484g
Visit: www.sigma-imaging-uk.com



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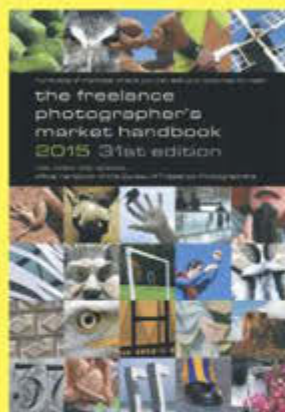
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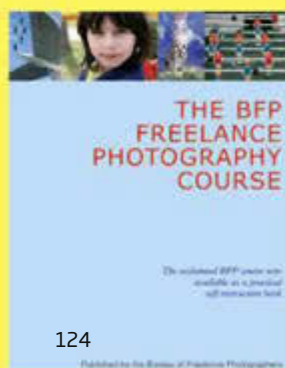
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The Tamron 10-24mm is just as wide as its rivals at 10mm, but offers more zoom at the long end



The Tamron 10-24mm offers a bigger focal range than its rivals, with a 2.4x zoom.



TAMRON 10-24mm f/3.5-4.5 DI II LD SP IF £359

WITH A STREET PRICE OF £359, Tamron's 10-24mm f/3.5-4.5 may not be the most affordable, but it has the advantage of extra zoom reach. It sports a 2.4x zoom with a focal length ranging from 10-24mm. That's just as wide as its rivals, but gives 4mm more than the two Sigma zooms and 6mm more than Canon's 10-18mm at the long end.

The 10-24mm can be purchased in a variety of different lens mounts. Available to fit Canon APS-C bodies, the 10-24mm has a film equivalent of 16-38.4mm with Canon's 1.6x crop factor. It's slightly wider in the Nikon, Pentax and Sony mounts, as they have a crop factor of 1.5x. Fitted to one of these D-SLRs, it has a film equivalent of 15-36mm.

We've covered the larger zoom range, but the 10-24mm is a physically large lens, too. Its dimensions of 83.2x86.5mm make it much more bulky than Canon's diminutive 10-18mm. That said, it feels solid and has a durable metal lens mount to boot. Its large, grippy zoom ring turns with a positive action and offers plenty of purchase. The focus ring was a little smaller but still offered plenty of grip, though it was a little looser to turn than the ring on the two Sigma models.

Unlike the pair of Sigmas, Tamron's 10-24mm has no focus distance window. Instead, distance information is printed on the front end of the focusing ring and its large text is easy to read.

On the side you'll find an AF/MF switch, which protrudes well, making it easy to find when your eye's to the viewfinder.

We could only award Tamron's 10-24mm 3 stars for performance. Though rapid enough in isolation, it was the slowest in comparison, taking a moment longer to find focus. It was also the loudest performer when focusing, with the potential to turn a few heads at quiet events like weddings or school plays.

When it came to close focusing, its on par with the two Sigma's at 24cm, but beaten by Canon's 10-18mm with its minimum focus distance of 22cm.

The 10-24mm features no image stabiliser, but its maximum aperture is two-thirds of a stop faster than the Canon 10-18mm at the both ends of the zoom. Its maximum aperture of f/3.5 also matches the premium-level Sigma at 10mm, but it's two-thirds of a stop slower at the long end, closing down to f/4.5.

THE RATINGS

Pros: Largest zoom on test, solid build, fast f/3.5 aperture at 10mm

Cons: AF is a little on the slow side and AF motor noise was audible in movies

Features and build	★★★★
Performance	★★★
Image Quality	★★★★
Value for money	★★★★
Overall verdict	★★★

Quickspec

Street price: £359

Lens mounts: Canon EF-S, Nikon F, Pentax K, Sony A

Maximum aperture: f/3.5-4.5

Minimum aperture: f/22-29

Minimum focus distance: 24cm

Filter thread size: 77mm

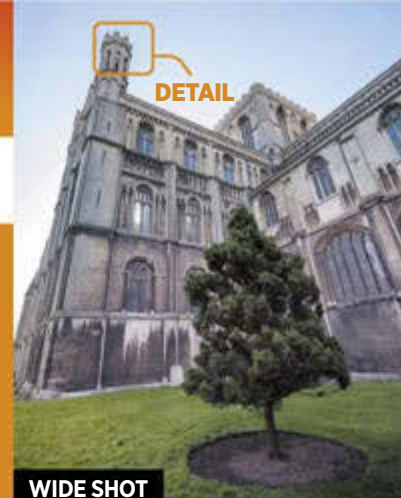
Dimensions: 83.2x86.5mm

Weight: 424g

Visit: www.tamron.eu

IMAGE QUALITY

We used test charts to reveal optical defects like chromatic aberration, distortion, and vignetting through the aperture and zoom ranges. We also conducted tests out in the field...



WIDE SHOT

CANON 10-18MM f/4.5-5.6 IS STM

At the 10mm end we saw a tiny amount of barrel distortion but a fantastic amount of sharpness across the frame, even at its widest aperture of f/4.5. There was a small amount of purple and green chromatic aberration in the corners and contrast dipped a little after the f/14 mark.

At the 18mm end, the centre was pin-sharp, but we needed to stop the aperture down to f/6.3 to see the corners follow suit. Chromatic aberration at the long end was very minimal though we saw a tiny amount of pincushion distortion at this focal length.

★★★★☆

SIGMA 10-20MM f/3.5 EX DC HSM

At its widest zoom setting of 10mm we saw a small amount of barrel distortion but a good amount of sharpness at the centre. The corners were a little soft at the widest aperture of f/3.5, and we noted some purple and green fringing here too.

Zooming in to the 20mm end we saw good sharpness across the aperture range. At f/4.5 it was noticeably better than the lower-priced Sigma model. There was also a little pincushion distortion at 20mm, and a small amount of chromatic aberration was evident in the corners.

★★★★☆

SIGMA 10-20MM f/4-5.6 EX DC HSM

At 10mm, sharpness was good across the frame at f/4, and we were impressed with the low levels of chromatic aberration. We found this lens had a 'sweet spot' for sharpness at around f/5.6, but closing the aperture down past this we saw contrast degrade slightly. There was also a little barrel distortion at 10mm.

Zooming in to 20mm, we saw a good level of sharpness across the frame – even at the widest aperture. Chromatic aberration disappeared here, but we did note a small amount of pincushion distortion.

★★★★☆

TAMRON 10-24MM f/3.5-4.5 DI II LD SP

At the 10mm end, Tamron's wide-angle matches the premium Sigma's f/3.5 maximum aperture. Images taken at 10mm f/3.5 were quite usable, but were beaten for sharpness across the frame by the Sigma model. We also noted a small amount of barrel distortion and this persisted when zooming in to the long end of the zoom range. We saw a small amount of green and blue chromatic aberration at both ends of the zoom.

At f/5.6 at the 24mm end, the centre and corners were a little softer than the others on test.

★★★★☆



10MM f/4.5



10MM f/3.5



10MM f/4



10MM f/3.5



10MM f/8



10MM f/8



10MM f/8



10MM f/8



18MM f/5.6



20MM f/3.5



20MM f/5.6



24MM f/4.5



18MM f/8



20MM f/8



20MM f/8



24MM f/8

WIDE-ANGLE ZOOMS COMPARISON



	CANON 10-18mm f/4.5-5.6 IS STM	SIGMA 10-20mm f/3.5 EX DC HSM	SIGMA 10-20mm f/4-5.6 EX DC HSM	TAMRON 10-24mm f/3.5-4.5 DI II LD SP IF
STREET PRICE	£245	£389	£345	£359
FULL FRAME OR APS-C	APS-C	APS-C	APS-C	APS-C
LENS MOUNTS	Canon EF-S	Canon, Nikon, Pentax, Sigma	Canon, Nikon, Pentax, Sigma	Canon, Nikon, Pentax, Sony
MAXIMUM APERTURE	1/4.5-5.6	1/3.5	1/4-5.6	1/3.5-4.5
MINIMUM APERTURE	1/22-29	1/22	1/22-32	1/22-29
MINIMUM FOCUSING DISTANCE	22cm	24mm	24cm	24cm
FILTER THREAD SIZE	67mm	82mm	77mm	77mm
IMAGE STABILISATION	4-stop Image Stabilizer	None	None	None
AF MOTOR	Stepping Motor (STM)	Hypersonic Motor (HSM)	Hypersonic Motor (HSM)	Super Performance (SP)
DIMENSIONS	74.6x72mm	87.3x88.2mm	83.5x81mm	83.2x86.5mm
WEIGHT	233g	520g	484g	424g
INCLUDED ACCESSORIES	None	Lens hood and soft pouch	Lens hood and soft pouch	Lens hood
VISIT	www.canon.co.uk	www.sigma-imaging-uk.com	www.sigma-imaging-uk.com	www.tamron.eu
FEATURES & BUILD	★★★★★	★★★★	★★★★★	★★★★
PERFORMANCE	★★★★★	★★★★	★★★★★	★★★
IMAGE QUALITY	★★★★★	★★★★★	★★★★★	★★★★
VALUE FOR MONEY	★★★★★	★★★★★	★★★★★	★★★
OVERALL VERDICT	★★★★★	★★★★★	★★★★★	★★★

THE VERDICT

THIS MONTH'S TEST WAS very close indeed. With some own-brand APS-C wide-angle lenses costing close to £1000, we were impressed with the quality we found in these budget lenses, some of which were a quarter of that price.

Tamron's 10-24mm was a strong contender and had the greatest reach on test. Its focal length of 10-24mm was a unique and versatile feature and meant you could zoom in a little more. Its maximum aperture of f/3.5-4.5 was more than fast enough for everyday use, but

was ultimately let down by its image quality and slower AF performance.

Sigma's 10-20mm f/4-5.6 was a strong contender with a good performance and rugged build, but we couldn't find a good enough reason not to spend the extra £44 on its faster-aperture sibling.



RUNNER-UP

SIGMA 10-20mm
f/3.5 EX HSM

This optic has been a benchmark in recent years, receiving our Gold Award in previous tests. It couldn't quite keep pace with Canon's latest own-brand model, but if you don't have a Canon D-SLR, the 10-20mm f/3.5 is the lens to go for. With image quality as solid as its hardy build, Sigma's 10-20mm f/3.5 is a great lens, worthy of our Silver Award.



WINNER

CANON 10-18mm
f/4.5-5.6 STM

This newcomer did an awful lot to get ahead of Sigma's 10-20mm f/3.5. Its rapid focusing, first-class image quality and unbeatable value certainly stood out.

We'd have marked it down for its plastic lens mount, but it's light, portable and has a fantastic Image Stabilizer thrown in. If you're an Canon APS-C user, this is a cracking lens at a brilliant price!



NIKON D7200 / ENTHUSIAST D-SLR / £1119 WITH 18-105MM LENS

A NEW CONNECTION

Nikon updates its top flight APS-C D-SLR with a host of incremental improvements

TEST BY BEN DAVIS

OVER TWO YEARS have passed since Nikon announced the D7100, which sat at the top of its APS-C format range. Its successor, the D7200, changes very little at first glance. However a closer examination of the spec sheet reveals a raft of refinements and subtle additions. And as is often the case with these updates,

minor tweaks can add up to make a significant difference to the handling and performance of the camera. We put the D7200 under forensic examination to discover just how it has been improved...

Features & Build

The driving force behind much of the improvements with this latest release is the inclusion of Nikon's

newest image processor: the EXPEED 4. It means the ISO sensitivity has been advanced to offer a range of 100-25,600. The previous native range of the D7100 was limited to a top setting 6400, so this gives an extra two stops of performance in low light conditions. However, if you want to use the expanded ISO settings of the D7200 (up to 102,400), then you're limited to shooting black & white only. Nikon has chosen to do this because there'd be so little accurate colour detail left at such high sensitivities.

One big improvement as a direct result of the imaging engine is the buffer capacity of the camera. Like its predecessor, the D7200 can

shoot 100 JPEGs in a continuous burst. But Nikon claims you can now fire off up to 18 14-bit RAWs in a burst before it slows – three times the amount of the D7100.

Despite the new and improved processor, the D7200's shooting speeds remains the same. It'll fire at a rate of 6fps (JPEG only, RAW is capped to 5fps), or this can be increased to 7fps when set to the camera's 1.3x 'crop' mode. This crop mode has two key benefits. Firstly, it'll extend the reach of lenses, almost doubling the telephoto effect of FX lenses, meaning you can get much closer to your subjects. It also enables the AF points to cover the entire frame, so you can accurately focus on any part of the scene.

The AF system is one of the more notable improvements made to this release. The Nikon Advanced Multi-CAM 3500 II AF system has been introduced, and is the same AF system used in the full-frame D750. It uses 51 AF points, with 15 of them being the more advanced cross-type for faster focusing. It's sensitive down to -3EV, giving an extra stop over the D7100 to get sharp shots in the dark.

Also new is the inclusion of NFC (Near Field Communication) and Wi-Fi connective technologies. These enable you to wirelessly transfer images to a smart phone or tablet so you can upload them to the web.

The Wi-Fi function will also allow you to remotely operate your camera, so you can use your phone to frame up and fire the shutter. To use the Wi-Fi function, you'll need to download the free Wireless Mobile Utility app from Google Play or the Apple App Store.

The new Wi-Fi function allows you to remotely control your camera using a smart phone

TEST SHOT



100% DETAIL

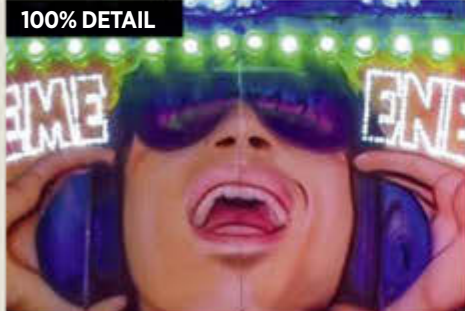


Image quality Detail & lens

The D7200 comes with a 18-105mm f/3.5-5.6 lens, and offers an excellent zoom range for a kit lens. However, we did encounter a few image defects when analysing the results from our test chart. At the wide end of the zoom there's a considerable amount of barrel distortion, and at wide apertures the frame edges are a little soft. There's also some minor chromatic aberration (fringeing) throughout, but no observable vignetting. At the long end of the zoom, pincushion distortion is present. We also found the same issues with soft edge detail, but the chromatic aberration was gone.



The D7200 is Nikon's flagship DX format D-SLR with a 24.2Mp sensor and an advanced AF system.

Key features of the Nikon D7200

LENS

The D7200 comes bundled with an 18-105mm f/3.5-5.6 lens with built-in Vibration Reduction.



MODE DIAL

Here you'll find the usual MASP controls as well as Auto, Scene, Effects and two user Custom modes. It is locked with a central pin.

BUILT-IN FLASH

Intelligent i-TTL flash control and a Commander function is incorporated, and the latter lets you wirelessly fire and control up to two groups of remote Nikon Speedlights.



LIVE VIEW BUTTON

A press of this gives immediate access to the camera's Live View functions for screen based composition, as well as enabling the Full HD video recording mode.

Quickspec

Street price: £939 (body) or £1119

with 18-105mm f/3.5-5.6 kit lens

Resolution: 24.2Mp (6000x4000px)

Format: RAW & JPEG

Sensor: APS-C CMOS (23.5x15.6)

ISO: 100-25,600

Shutter: 30-1/8000sec & Bulb

AF system: Nikon Advanced

Multi-CAM 3500 II with 51 AF points

Focusing modes: Single-servo

(AF-S), Continuous-servo (AF-C),

Auto AF-S/AF-C selection (AF-A)

and Manual focus (M)

Metering: Matrix, Center-Weighted and Spot

Burst rate: 6fps

Monitor: 3.2in 1229k-dot TFT LCD

Viewfinder: Eye-level pentaprism

Pop-up flash: Yes **Hotshoe:** Yes

Video: Full HD 1080p @60fps

Write speeds: 0.6secs RAW, 0sec Extra Fine JPEG

Storage: SD, SDHC and SDXC

Weight: 765g (body only)

Dimensions: (WxHxD)

135.5x106.5x76mm

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Introducing Nissin's new pocket size flashgun, the i40. Weighing in at just 203g and measuring only 85mm high, this high specification flash is ideal for travelling.

Although compact, the i40 packs a real punch with a guide number of GN40 at ISO100. It boasts an auto zoom range of 24 – 105mm (16mm with built in diffuser) and supports up to 1/8000th second shutter speed. Other features include LED video light function, Wireless TTL and a bounce and swivel head - all wrapped up in a stylish design with easy to use intuitive controls.

The i40 is available in Canon, Nikon, Sony, Four Thirds and Fuji fit.

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The sensor in the D7200 remains the same as the previous incarnation. It's a 24.2Mp APS-C sensor without an anti-aliasing filter, giving sharper detail. It measures 23.5x15.6mm and has a resolution of 6000x4000px.

Although there's a few new components inside the camera, the externals remain the same as the D7100. There's no new button layout, the dimensions and 765g weight mirror its predecessor and the 3.2in monitor has the same 1229k-dot resolution.

Performance & Handling

In the hand the D7200 sits very comfortably. The grip and textured rubber pads gives an excellent purchase, and the ergonomic layout places the controls firmly under your fingertips. There are front-and-back rotating command dials dedicated to controlling the aperture and shutter speed, so you never need to drop the camera from your eye to make exposure adjustments.

Tweaking other settings is a breeze, too. Both the button layout and internal menus are intuitive, and the *i* button gives quick access to some frequently called-upon controls. Both the Function and Preview buttons can be customised, so you can assign them to controls that suit your preferred style of shooting.

The viewfinder is large and bright, and offers 100% frame coverage. If you want to frame up from challenging angles it has Live View, but unlike some of its rivals the rear screen is fixed, so you can't flip it out from the body for extra framing accuracy.

Focusing when using Live View is noticeably slower than when using the viewfinder. It often



The D7200's lightweight magnesium alloy body is dust and weather-resistant, offering you protection from the elements.

hunted back-and-forth as it attempted to get a sharp lock. This isn't unique to the D7200 though. All D-SLRs suffer the same issues, as the less effective, sensor-based contrast-detect AF is used when the mirror is up.

For the best AF performance you'll need to use the viewfinder. We found it to be smooth and accurate, even in low-light conditions. The AF-assist lamp kicks out a beam to help find focus when the light was even more scarce. The focusing was however a little slow when forced to make big distance adjustments in, but it still delivered sharp shots, despite the slight wait.

We found the EXPEED 4 processor actually outperformed Nikon's claims. When set to shoot RAW at a top speed of 5fps, we managed to fire off 22 frames before the buffer filled. These files took just 3.4secs to be saved to our 95MB/s PNY SDHC test card. A single RAW took 0.6sec to be saved. Switching to JPEG, we rattled off a 100-shot burst before the camera came to a halt, and these were written instantly, with no need to wait to review the files.



Image quality ISO, JPEG & RAW image test results

The D7200 has an ISO range of 100-25,600, and at low ISO settings we found our images to be smooth and free from grain. At ISO 800, both Luminance Noise (grain) and Colour Noise (red and blue speckles) began to emerge on our RAW files, and this increased gradually as we upped the sensitivity. However this is easily combatted with post-processing. On the JPEG test files, the problems were suppressed by in-camera processing, but resulted in a more 'waxy' finish.

We found the EXPEED 4 image processor actually outperformed Nikon's claims when it came to write speed

Value for Money

The D7200 comes bundled with the 18-105mm f/3.5-5.6 lens and costs £1119, or it can be purchased for £939 body-only. This price places it on par with some of its key competitors.

If you're looking to spend under £1000, the Canon 70D costs £939 and comes with a 18-135mm lens.

It's got 19 cross-type AF points, shoots at 7fps but has a slightly smaller 20.2Mp sensor.

If it's a superior speed you're after, the Sony A77 II fires at 12fps and has 79 AF points. It costs £1199, including the 16-50mm lens. Alternatively the Pentax K-3 will shoot at 8.3fps, and costs £1029 with a 18-135mm lens.

THE VERDICT

The D7200 is a great top-spec enthusiast D-SLR, but it's difficult to envisage many owners of the D7100 rushing out in their droves to upgrade. But if you're coming in fresh to the market, it's worth paying the extra £190 to get this latest model. The new processor makes the biggest difference. It provides an impressive buffer which will keep you shooting for longer, and the increased ISO capability will get you more detail in the dark. The new AF system proves its worth too, even if we did occasionally find it a little sluggish. Not all users will take advantage of this model's connectivity, but those that do will find it a useful feature and the accompanying app is well designed. However, if you're looking to take your photography to the next level, you may want to consider going full-frame, as at £1119, the D7200 is only £80 cheaper than the D610 body (£1199).

Features & build	★★★★★
Performance	★★★★★
Image quality	★★★★★
Value for money	★★★★★
Overall score	★★★★★

FUJIFILM X100T / PREMIUM COMPACT / £969

STYLISH STREET SHOOTER

With retro looks and small dimensions, could Fuji's X100T be the ultimate candid camera?

TEST BY MATTY GRAHAM

THE X100T IS THE third incarnation of Fuji's retro-styled fixed lens camera. Following on from the original X100 (launched in 2011) and the X100s (unveiled January 2013), the X100T sticks with the tried and tested 23mm focal length (a film-equivalent focal length of 35mm) and the compact dimensions introduced

in the two earlier models. As this is an update though, you'd expect there to be new features and this is exactly the case. Improvements to the viewfinder, button configuration and connectivity aim to attract new users.

But, are there enough additions to tempt X100/X100S users to upgrade or attract new buyers to the brand? Let's find out...

Features & Build

The sensor inside the X100T hasn't changed from the X100s and still features the X-Trans CMOS II APS-C sensor with a 16.3Mp resolution. While this places the Fuji at a disadvantage when compared to rivals such as the full-frame Sony RX1 (24Mp), our test images confirmed the Fuji has enough pixels to produce incredibly high-quality pictures (see panel below).

On the exterior of the X100T, improvements are more obvious. At the rear, a D-Pad has replaced the rotary dial design featured on the X100S, and this gives a more ergonomic layout, allowing you to change settings quickly.

Extra feature buttons have been moved to the left of the rear camera panel, allowing users to quickly change the View mode between LCD and EVF, as well as activating the Wi-Fi function. Lastly on the reconfigured button layout, the X100T has a shortcut Q menu that can be customised.

Perhaps the biggest addition to the X100T is the technology infused into the hybrid viewfinder, which has a 92% field of view. At first impression, it looks like a normal optical viewfinder, but you can opt to have exposure information displayed on the viewfinder. This is quite amazing and essentially makes it a half-optical, half-electronic viewfinder. You can choose the best viewfinder mode for your shooting situation, as not everyone likes to have too much exposure information around the viewfinder display.

The main LCD on the rear of the camera is now 3in – marginally bigger than the 2.8in of the X100S – but it also sees a huge jump in resolution from 460k-dot to 1040k-dot.

In essence, the X100T offers a raft of subtle rather than major changes that add refinement to a tried and tested platform. For example, the retro-style, machined mode dial now features a cross-hatch dimpled design, which not only looks more classic but also feels better under the fingers. The Exposure Compensation range changes from +/-2 to +/-3 EVs, allowing for more control over the metering. And the X100T is the first in the series to offer Wi-Fi.

Perhaps the biggest addition is the technology infused into the hybrid viewfinder

TEST SHOT



100% DETAIL



Image quality Detail & colour

The image quality that can be achieved with the X100T is simply first class. Images shot in the RAW format capture a large dynamic range, so skies that may seem to be overexposed can be rescued easily using suitable RAW software such as Lightroom. JPEGs are also of high quality without suffering from colour casts.

Considering the small size of the lens, the 23mm optic records frames that are sharp and packed with impressive detail. Images are sharpest at f/8, with barely any chromatic aberration and the most minimal of vignetting at f/2.



Discreet yet stylish, the X100T is a street photographer's dream.

Key features of the Fuji X100T

FAST SHUTTER SPEED

Along with a top mechanical shutter speed of 1/4000sec, the X100T has an ultra speedy electronic shutter speed of 1/32000sec.



MODE DIALS

The machined aluminium dials on top feature a cross-hatched milled design that adds to the retro styling of the camera.

ADVANCED HYBRID VIEWFINDER

Featuring an advanced hybrid viewfinder, the X100T allows you to view exposure information superimposed on the optical viewfinder.



ENHANCED SCREEN

The X100T features a bigger 3in LCD than the older X100S (2.8in). The screen resolution has more than doubled, changing from 480k-dot to 1040k-dot.

Quickspec

Street price: £879

Resolution: 16.3Mp (4896x3264)

Format: RAW & JPEG

Sensor: X-Trans CMOS II APS-C

Lens: 23mm f/2

Stabilisation: No

ISO: 200-6400 (100-51200 expanded)

Shutter: 30-1/4000sec (1/32000 electronic)

AF system: 49-point hybrid AF system

Focusing modes: Single AF, Continuous AF, & Manual focus

Metering: TTL 256-zone, Multi, Spot, Average

Burst rate: 6fps

Monitor: 3in, 1040k-dot LCD

Viewfinder: 0.48in 2360k-dot hybrid

Pop-up flash: No

Hotshoe: Yes

Wi-Fi: Yes **GPS:** No

Video: Full HD 1080p at 24/25/30/50/60p

Write speeds: 1.7secs RAW,

1sec Extra Fine JPEG

Storage: SD, SDHC and SDXC

Weight: 440g (including battery and memory card)

Dimensions: (WxHxD)

126.5x74.4x52.4mm

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Performance & Handling

With a maximum frame rate of 6fps, the X100T is certainly capable of capturing action shots, but it's even better suited for a more considered approach to photography, such as candid street shooting. The autofocus system locks on to subjects quickly and is only flummoxed in extremely tricky lighting conditions, like shooting into bright sunlight.

Tipping the scales at just 440g (including battery and memory card), the lightweight nature of the X100T makes it a genuine pocket camera that you can carry around all day. It's easy to see the appeal of this highly portable solution as there will be some situations – like a day in the city – where a heavy D-SLR and extra lenses will both weigh and slow you down.

In the hand, the X100T feels very comfortable and well-balanced. If you're used to a D-SLR, it may take a little time to get used to the diminutive proportions, but the button layout is logical and works well.

There are the odd niggles, such as the placement of the On/Off switch around the shutter button that makes it easy to accidentally knock, but nothing major. Write speeds were quick enough (1.7 secs for a single RAW file and 8.4 secs for a burst of five images). The magnesium alloy body and machined dials give the Fuji a premium feel, and the slim profile of the 23mm lens offers a high degree of discretion when shooting – it didn't draw any attention when used in a busy town centre.

The placement of the aperture ring around the lens means you

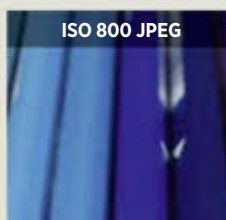
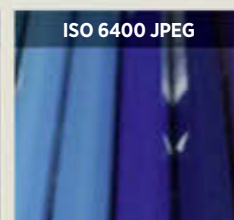


Image quality ISO, JPEG & RAW image test results

The X100T handles Noise superbly. Our test images showed that digital Noise was virtually undetectable until the ISO 1600 mark. Even when the ISO is cranked up higher, Noise is still expertly suppressed and frames captured at ISO 6400 are still suitable for use, even when enlarged or cropped.

RAW files are typically cleaner than JPEGs, but both formats impress and show the impressive capabilities of the Fuji's X-Trans sensor.



can change the f/number in an instant, and the large maximum aperture of f/2 opens creative doors for stylish shots. At f/2, there's an incredibly shallow depth-of-field, with the subject held sharp against a background of attractive bokeh. The use of this aperture adds a slick, professional feel to pictures – one you can't achieve using a D-SLR with the variable aperture 'kit' lens that comes supplied.

One additional feature worth noting is the new 'Classic Chrome' film simulation mode. Rather than a quirky, throwaway Picture Style option, this mode is a genuine way to add character to images. The contrast, colour balance and saturation automatically applied evokes the era of iconic analogue slide films, and it's all done through in-camera processing.

Value for Money

At £969 all-in, the X100T is a sizeable investment, but sits comfortably in the middle between its two closest rivals. The Fuji is £1000 cheaper than the full-frame 24Mp Sony RX1, but around £500 more expensive

The position of the aperture ring and the lens offers the ability for photographers to change the f/number in an instant

than the Nikon Coolpix A. The Nikon boasts a similar pixel count (16.2Mp) and a fixed 18.5mm lens, but it has a slightly slower maximum aperture of f/2.8. If you make the investment, the rugged build quality suggests it will serve you well for many years. The nature of the fixed-lens system means you

won't be adding to the initial outlay with any extra optics, though because the X100T sports a hotshoe, it is possible to slip on an accessory flashgun or use a wireless trigger system with off-camera flash or studio lighting. Overall, the X100T's price-tag isn't over-the-top considering its premium spec.



The slim profile of the fixed, 23mm lens enables the X100T to be small and sleek enough to slip into a jacket pocket.

THE VERDICT

The X100T is certainly faster, easier to use, better looking and more intuitive than the X100S it replaces. However, because the sensor and processor haven't changed and the megapixel count hasn't increased, the decision to upgrade from the X100S may be a difficult call to make. Those coming to the system for the first time however will have an much easier decision. The X100T not only offers great image quality and the facility to get beautiful shots with a very shallow depth-of-field, but it's also a joy to use. What's more, there's the added benefit of the classic, retro styling and the discreet dimensions. Sure, it's on the pricey side, but you can see and feel where your money goes, and the durable build and hybrid viewfinder technology goes a long way to justifying the price tag. This is a fantastic camera that's sure to be popular with those after top quality in a portable package.

Features & build	★★★★★
Performance	★★★★★
Image quality	★★★★★
Value for money	★★★★★
Overall score	★★★★★



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T0342/3/4, each	£18.99 17ml	Check Website.	CX600/605, CX640, CX650
T0345/6/7, each	£18.99 17ml	Check Website.	Parasol Inks
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T0452/3/4, each	£21.99 15ml	£3.99 21ml, 3 for £13.99	RC500, RC600, RC820, RC840
T0481-T0486 Set of 6	£69.99 set of 6	£19.99 3 sets for £56.99	Seashore Inks
T0481/2/3, each	£16.99 15ml	£3.99 21ml, 3 for £13.99	Photo RC00, RC100
T0484/5/6, each	£16.99 15ml	£3.99 21ml, 3 for £13.99	Frog Inks
T0540-T0549 Set of 8	£109.99 set of 8	£35.99 3 sets for £99.99	Photo R240, R245, R240, R245, R240, R245
T0540 Gloss	£8.99 13ml	£3.99 21ml, 3 for £13.99	Duck Inks
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T0551 Black	£8.99 13ml	£3.99 21ml, 3 for £13.99	Teddy Bear Inks
T0552/3/4, each	£8.99 13ml	£3.99 21ml, 3 for £13.99	S20, S21, SX100/105/110/115/200/205/210/215
T0591-T0599 Set of 8	£99.99 set of 8	Check Website.	SX400/405/415/515, D780/720, B40W, B500W
T0591/2/3, each	£12.99 10ml	Check Website.	DX4000/4400/5000/6000/7000/7400/8400/9400
T0594/5/6, each	£12.99 10ml	Check Website.	Photo 1400
T0597/8/9, each	£12.99 10ml	Check Website.	Owl Inks
T0611-T0614 Set of 4	£34.99 set of 4	£14.99 3 sets for £42.99	Photo P50, P505/505/505W/710W/720W, P505/505/505W/710W/720W
T0611 Black	£8.99 13ml	£3.99 21ml, 3 for £13.99	Photo P505/505/505W/710W/720W
T0612/3/4, each	£8.99 13ml	£3.99 21ml, 3 for £13.99	R205/255/290, R205/255/290
T0711-T0714 Set of 4	£34.99 set of 4	£14.99 3 sets for £42.99	Photo N1900
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T0712/3/4, each	£8.99 5.9ml	£3.99 13ml, 3 for £13.99	S22, SX125/130, SX420W/425W/445W, SX420W/425W/445W
T0791-T0796 Set of 6	£74.99 set of 6	Check Website.	SX420W/425W/445W/525W/540W/540W
T0791/2/3, each	£12.99 10ml	Check Website.	SX420W/425W/445W/525W/540W/540W
T0794/5/6, each	£12.99 10ml	Check Website.	Photo N2000 Kingfisher Inks
T0801-T0806 Set of 6	£51.99 set of 6	£19.99 3 sets for £57.99	Photo N2000 Penguin Inks
T0801/2/3, each	£8.99 7.4ml	£3.99 13ml, 3 for £13.99	Photo Pro 3600, 3680
T0804/5/6, each	£8.99 7.4ml	£3.99 13ml, 3 for £13.99	Workforce WF-2010W, 2510W, 2520W, 2530W, 2540W
T0870-T0879 Set of 8	£74.99 set of 8	Check Website.	Workforce WF-2010W, 2510W, 2520W, 2530W, 2540W
T0870 Gloss	£7.99 11.4ml	Check Website.	High Capacity Fountain Pen Inks
T0871/2/3/4, each	£9.99 11.4ml	Check Website.	Expression Home XP30, XP102, XP202, XP205
T0877/8/9, each	£9.99 11.4ml	Check Website.	XP302, XP305, XP402, XP405
T0961-T0969 Set of 8	£74.99 set of 8	Check Website.	Expression Home XP30, XP102, XP202, XP205
T0961/2/3/4/5, each	£9.99 11.4ml	Check Website.	XP302, XP305, XP402, XP405
T0966/7/8/9, each	£9.99 11.4ml	Check Website.	High Capacity Daisy Inks
T1281-T1284 Set of 4	£29.99 set of 4	£14.99 set of 4	Expression Photo XP750, XP650
T1281 Black	£7.99 5.9ml	£3.99 13ml	Elephant Inks
T1282/3/4, each	£7.99 5.9ml	£3.99 13ml	Expression Photo XP750, XP650
T1291-T1294 Set of 4	£42.99 set of 4	£16.99 set of 4	High Capacity Elephant Inks
T1291 Black	£10.99 11.2ml	£4.99 16ml	Expression Premium XP600, XP605, XP700, XP800
T1292/3/4, each	£10.99 7ml	£4.99 13ml	Polar Bear Inks
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No.16XL Set of 4	£44.99 set of 4	£14.99 set of 4	Expression Premium XP600, XP605, XP700, XP800
No.16XL CMY, each	£14.99 12.9ml	£4.99 18ml	Expression Premium XP600, XP605, XP700, XP800
No.16XL CMY, each	£11.99 6.5ml	£3.99 13ml	Expression Premium XP600, XP605, XP700, XP800
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No.18 CMY, each	£5.99 3.9ml	£3.99 13ml	Expression Premium XP600, XP605, XP700, XP800
No.18XL Set of 4	£46.99 set of 4	£14.99 set of 4	Expression Premium XP600, XP605, XP700, XP800
No.18XL Black	£14.99 11.5ml	£4.99 18ml	Expression Premium XP600, XP605, XP700, XP800
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67mm	£8.99	£15.99
72mm	£9.99	£17.99
77mm	£11.99	£19.99
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62mm	£19.99	£44.99
67mm	£22.99	£52.99
72mm	£26.99	£58.99
77mm	£29.99	£67.99
82mm	£34.99	£75.99
86mm	£39.99	£90.99

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62mm	£17.99
67mm	£19.99
72mm	£21.99
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52mm	£31.99
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62mm	£39.99
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72mm	£52.99
77mm	£58.99
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SQUARE FILTERS

KODAK P-Type Filter System

The P-Type square/rectangular filter system consists of three parts:

- 1) An adapter ring that screws onto the front of your lens
- 2) A filter holder clips onto the ring
- 3) One or more P-Type (84mm wide) filters

KODAK square filters are manufactured in the UK, and are fully compatible with the Cokin P-Type filter system

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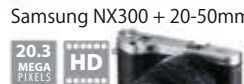
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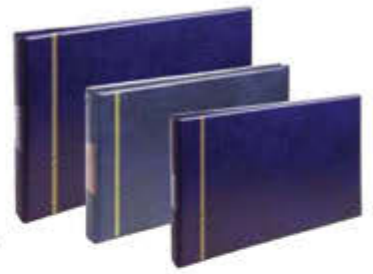
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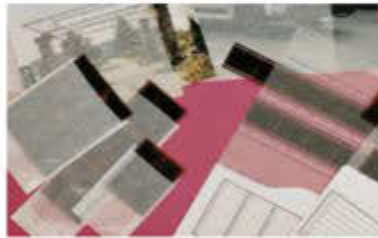
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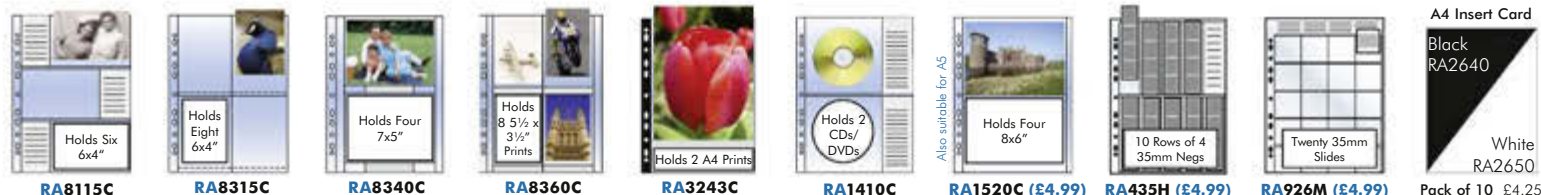


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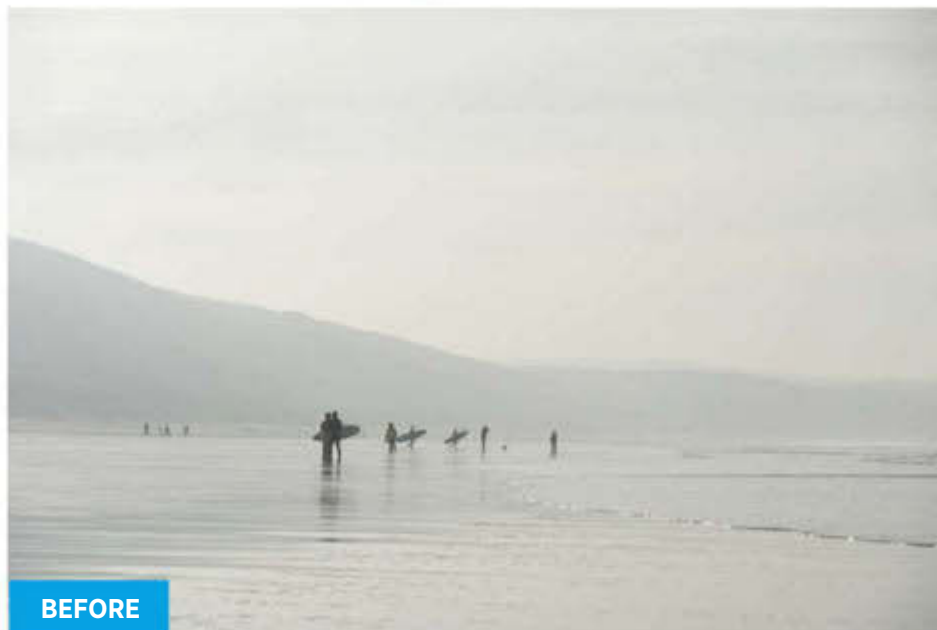
ROGER STENHOUSE'S SCENE of surfers gathering at the shoreline was taken on the North Devon coast. "It had been a bright day, but as the sun headed towards the horizon the weather became quite overcast and misty. I used the long end of my 18-70mm lens and was hoping for an atmospheric landscape with the surfers coming out of the mist, but the end result is a bit lifeless and grey. I've tried a number of techniques on the pic, from adding a new sky to boosting the colour, but nothing seems to work. Any ideas on how I could improve it?"

Digital Doctor says: There's a hint of a minimalist landscape in Roger's shot, and while I like the sweep of the cliffs in the distance and the delicate lead-in line of the water, the surfers themselves are a bit too central in the frame. I'd definitely make a crop to give them more prominence in the scene, and I'd also move them over to the left so they're away from the middle of the picture.

I can imagine there was some real atmosphere at the location in the misty conditions, but this doesn't translate to the image, as the mist isn't defined and just washes out contrast. In Photoshop, my first thought was to go for a black & white treatment, but the shot is almost mono to begin with, so there's little to gain here. With a tonal revamp struck off, creating a more colourful version was the next idea. Roger's mention of it being a bright, sunny day had me reaching for *Digital Photo's* Lens Flare kit, and I added *Flare 25* to the top-right to convey how the weather might have been. This immediately boosted the drama, and also balanced the composition with the surfers in the lower left.

To introduce colour, I made a Selection of the sky and cliffs and after feathering it using **Refine Edge**, I made a **Curves** Adjustment Layer. In the palette I selected the **Red** Channel and pulled the curve down, then selected the **Blue** Channel and pushed it up. This created a rich, blue sky and gave the cliffs an attractive blue wash. I then selected the beach in the same way, but took the **Red** and **Blue** Channels in the opposite direction to boost the colour of the sand.

I couldn't get a more defined look to the mist present in the shot, as the haze was too uniform. I liked the idea of the surfers coming out of the mist though, so I set about creating the effect. I first set the foreground and background colours to a pale blue and a mid grey, and then created a new Layer. I made a rectangular Selection about the size of the surfer group, and then went to



Filter→**Render**→**Clouds** to get a mottled effect. Using **Free Transform**, I stretched out this cloudy effect to cover the bottom third of the scene, and then reduced the Layer's **Opacity** to around 50% to make it see-through. I added a **Layer Mask** to the fake mist, and then worked into it with a black brush set to a low **Opacity** of 30%.

After a few minutes of masking, I'd created a good misty effect, and could control how thin or dense it appeared. The last step was to add a little bit of localised contrast, to get some pools of light and shade into the shot. I did this by merging the Layers together, and then used the **Dodge** and **Burn** tools at a very low **Exposure** setting. There's a lot of artistic licence in the final image, but it injects the atmosphere that Roger was looking to capture.

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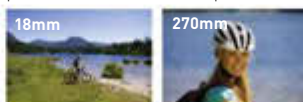
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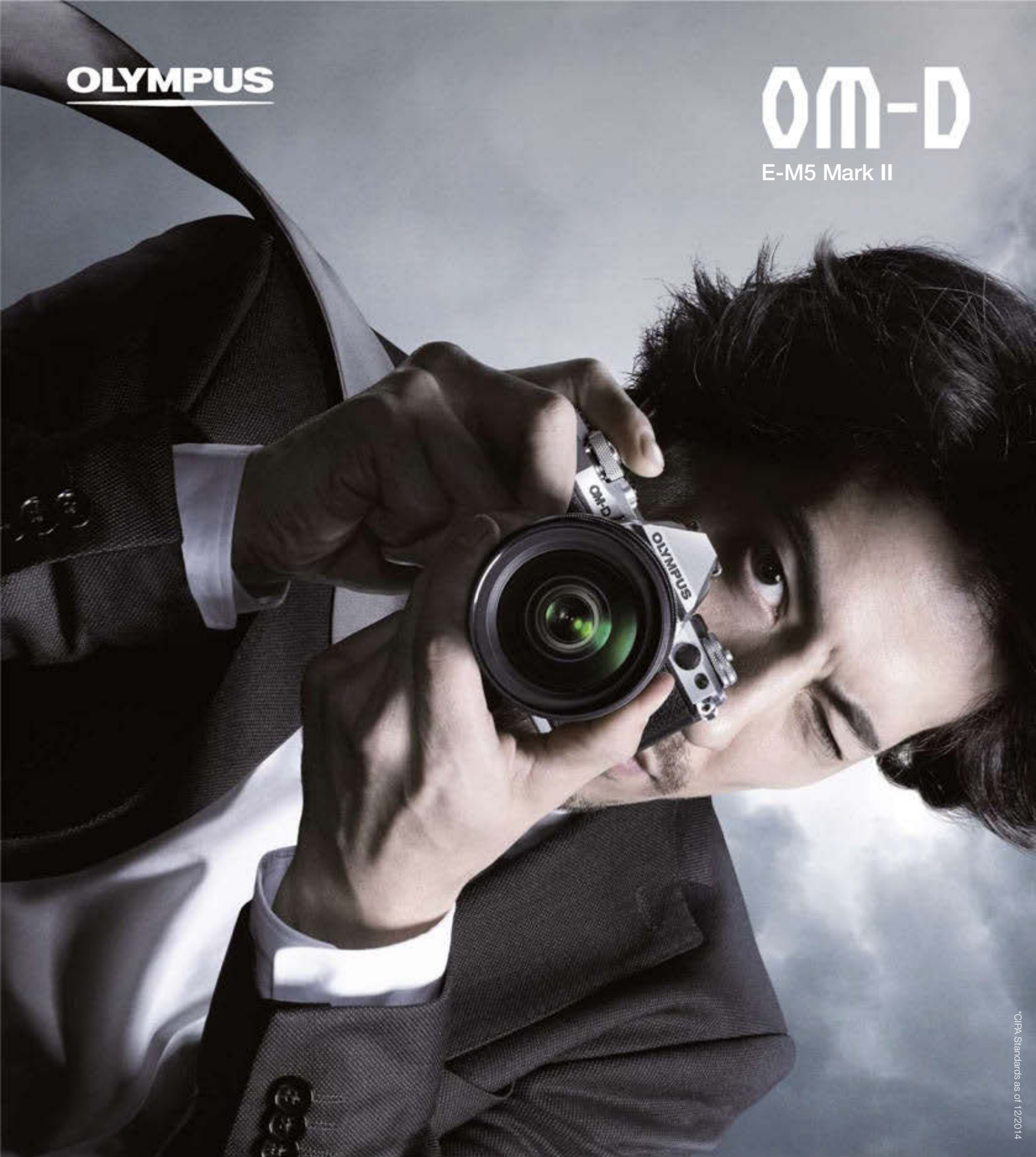
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